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ABSTRACT

This volume is the second of two in a report on a state-of-the-art assessment which was conducted to determine the roles of school, academic, special, and community libraries in creating and/or providing viewtext information services; the information resources now available or expected to be available in the future to a sample of libraries in the United States; and the unique contribution that viewtext can make to providing information to homes or businesses. The nine case studies presented in this volume were carried out in different types of libraries: two public high school media centers representing urban and suburban communities; two academic libraries, one in a small private college and one in a large public university; two large-city public libraries; one regional public library; one community media center serving rural school districts; and one library in an international corporation. Each report summarizes information gathered during site visits under 11 broad headings: (1) library management; (2) history of the library's involvement with viewtext; (3) viewtext applications observed during the site visit; (4) organization and management of viewtext services; (5) patron access to viewtext; (6) cost implications; (7) program results; (8) outreach activities; (9) future goals and objectives; (10) lessons learned; and (11) references. A brief summary of findings in each area introduces the reports on individual libraries; a list of questions used to guide data collection during site visits is appended. (BBM)

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The Role of Libraries in Creating and Providing Viewtext Information Services

COMPREHENSIVE REPORT: PART II
CASE STUDY REPORTS

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INTRODUCTION

Nine case studies were carried out in this project to obtain current data for the Center for Libraries and Education Improvement (CLEI) on the state-of-the-art in creating and delivering viewtext information services. The libraries selected for case studies included two public high school media centers, one in an urban and one in a suburban community; two academic libraries, one serving a small private college and one serving a large public university; two large-city public libraries; one regional public library; one county media center serving rural school districts; and one library serving an international corporation.

The Case Study Reports which follow summarize under the following broad headings the information gathered during site visits.

1. Library Characteristics: General information on the library and its program, such as location, community served, staff, collection, and circulation.
2. History of Viewtext: The way the library began its involvement with viewtext and the evolution of viewtext use up to the present.
3. Viewtext Applications: The uses of viewtext actually observed at the time of the site visit.
4. Organization and Management: Identification and roles of the individuals and units responsible for viewtext.
5. Patron Access to Viewtext: The extent to which patrons, with or without the intervention of the library staff, can use viewtext.
6. Cost Implications: Information on sources of funding for viewtext and on the impact of viewtext on the library's present and anticipated budget.
7. Program Results: Data on viewtext available now or being collected for future analysis.
8. Outreach: Methods the library is using to make its viewtext applications known and to develop linkages with other libraries and agencies.

9. Future Goals and Objectives: The library's future plans that involve viewtext.

10. Lessons Learned: Strategies and insights developed for dealing with technical, organizational, social, or political problems that affected the implementation of viewtext at the library site.

11. References: Sources of additional information about the library.

Since only libraries involved with viewtext in some form could be selected for case studies, the information collected at the nine sites visited may not be generalizable to the universe of libraries in the United States. The findings also cannot be generalized with confidence to all libraries using viewtext, because of the small size of the sample. Nevertheless, the conclusions that appear to be common to all or most of the sites may be meaningful, and these are summarized below.

Library Characteristics

Libraries of all types are involved in providing and delivering viewtext information services. However, in communities where commitment to library services as a whole is weak, involvement with viewtext also is limited, and patrons have less access to available information. School media centers are very active in the integration of viewtext in their schools. However, both school and public libraries in rural areas and in areas that are in economic recession have had to restrict library service, including viewtext, due to budgetary limitations. Where funding is available, circulation and library use are expanding and facilities that incorporate viewtext are being built.

History of Viewtext

Involvement in viewtext often has resulted from the activities of specific individuals committed to this technology. Successful programs, however, have resulted from the integration of new and traditional services.

Federal initiatives have had a profound effect on the ability of libraries to incorporate viewtext. Many school media centers have received their initial equipment through block grant funding, and the support for educational computing over many years by the National Science Foundation and the Department of Education has created a hospitable atmosphere for library viewtext use in schools and universities. The Library of Congress Machine Readable Cataloging (MARC) program standardized cataloging and made possible the Online Computer Library Center, Inc. (OCLC), the development of which also was funded by many Federal agencies. This database now is accessible to libraries nationwide, but the retrospective conversion to machine - readable format of materials prior to 1973, when OCLC began, has been a difficult problem for libraries.

Viewtext Applications

Overall, the integration of viewtext into library administration, technical processing, and patron service has been proceeding rapidly in recent years, as appropriate technologies for these uses have become available. Libraries are acquiring and lending hardware and software to patrons and using viewtext for internal library business and administrative purposes, as well as for searching commercial online databases. They also are developing online access to their bibliographic records for other libraries and for patrons. Online catalogs are permitting libraries involved in networks to offer online access to very extensive library holdings of the cooperating libraries, while avoiding the duplication of costly resources. Individual libraries also are developing online databases of local community information.

Organization and Management

Successful viewtext applications are developed jointly by vendors familiar with library system requirements and library personnel who have systems

expertise. However, where libraries lack specific knowledge, they often can call upon specialists within their host institutions or political jurisdictions for advice on such tasks as developing proposal requests, writing technical specifications, and meeting user needs. Such cooperation results in better vendor service and more appropriate patron interfaces.

Viewtext provision and delivery are not being developed as separate library functions, but are being integrated within the work of existing departments. Although viewtext applications often require added staff for development and installation, these specialists usually can turn over ongoing applications to the permanent staff when the installation is complete.

Patron Access

Libraries are philosophically committed to encouraging patron access to all information resources. However, the high cost of using online databases and the difficult and time-consuming protocols that must be mastered to use these databases efficiently commonly result in the intervention of librarians to carry out online searches. As better patron interfaces are developed, this may not continue to be necessary. Access to library collections by patrons is a standard feature of many existing online catalog and circulation systems. The turnkey systems that bring automation to a library as a purchasable end product include in their systems modules for community access. Libraries have begun to lend software to patrons, and, in some libraries, patrons also have access to microcomputer hardware.

Library personnel involved in public outreach are playing major roles in encouraging community use of online library catalogs and information services, and are cooperating in the development and delivery of videotex and community access cable television.

Cost Implications

Usually, viewtext is paid for with funds from regular library materials budgets. However, support from Federal, state, and private sources has had a key impact in allowing libraries to become involved in viewtext. All libraries providing or delivering viewtext have profited from Federally-sponsored library research projects on viewtext and associated technologies.

Viewtext does not cut library costs, but it does avoid some costs, making it possible to deliver improved service with the same money, while increasing collection size. Paraprofessional and clerical employees using viewtext applications can accomplish tasks that formerly required librarians, and this frees librarians to work with patrons and to master complex new information resources.

Program Results

There is broad consensus that viewtext use has improved library productivity in technical and reference services and has increased the amount of time professionals can devote to direct assistance to patrons.

Library statistics show that viewtext also is contributing to the overall use of library resources. Patrons and staff can identify and access more readily information available both in the local library and through interlibrary loan, including current information on community services and events. Online access to library collections, with materials delivered directly to the patron, is decreasing the number of visits to some libraries, and library facilities may change if this trend toward remote use continues. However, libraries also report an increase in library use by new patrons who use online services from remote terminals.

Viewtext permits centralization of files in one database, with physical access possible from terminals at any library location. Therefore, the division of libraries into units physically separated and with separate departmental records is no longer necessary, and librarians are reassessing traditional library organization.

Access to commercial bibliographic databases is affecting library collection decisions. The availability of some materials online is resulting in the cancellation of subscriptions to hardcopy publications of the same materials. Subscriptions in this category often are those that do not receive a great deal of use, are very expensive, and are available online as a part of a database to which the library already subscribes. However, online bibliographic searching also is resulting in the purchase by libraries of additional materials as patrons identify sources they were not aware of previously and as demand for materials from these sources increases.

Outreach

Opinion is divided as to whether viewtext should be publicized as a separate resource or regarded as one tool, integrated with other resources available in the library. Where funding for online searches is limited or uncertain, libraries are reluctant to publicize the service widely, and patron searching is not allowed. If funding for searches is limited, libraries also tend to restrict publicity about their online services to business users in order to assure the library of the support of local commercial interests.

Commercial videotex databases offer opportunities to publicize library services, but the impersonal service given users through videotex screens is not a substitute for library service. The information base of the typical videotex system is small and expensive to access and does not compare with what is obtainable free to library patrons.

Future Goals and Objectives

Because they are aware that viewtext offers opportunities to improve service and efficiency, librarians are planning to integrate these technologies to the extent that their financial situations permit. Commercial databases are excellent resources for bibliographic information, but this information usually is only valuable to the researcher if materials identified are accessible at a local library or can be obtained through interlibrary loan. Therefore, librarians anticipate that in the future their libraries will continue to be primary information resources, individually for their user communities and collectively through their systems of networks.

Lessons Learned

Viewtext affects library operations at all levels. Because of the expense of developing and implementing viewtext applications, libraries have learned that to make the best use of viewtext capabilities, they must review their organizational structures and their service priorities.

Libraries have learned to define their missions in ways that identify the libraries with the goals of their users. Thus, librarians publicize their services among all groups in their user community and make clear to local businesses and industries the value of the library as an information provider. Only when a library's usefulness has been well established does support for bond issues and other funding follow.

Libraries have found it useful to establish ties with other libraries in their geographic areas to plan cooperatively for viewtext use and to share experiences with vendors and systems. They also have learned to work with commercial videotex information service providers rather than to view these providers as competitors.

References

Librarians are eager to share information on viewtext. They provide pamphlets and brochures to explain viewtext applications to patrons and publish books and articles for their own profession. The library literature contains many articles on the cost and capabilities of hardware and software, the selection of vendors, etc. Local libraries are establishing library automation groups to share expertise, and librarians also are participating in American Library Association (ALA)-sponsored committees and conferences.

Bibliographic citations for specific books, articles, and transcripts of speeches that were provided at the sites visited in this study are included in the Reference sections of the Case Study Reports. A contact person and telephone number for each site also are included. Additional information about viewtext provision and delivery can be obtained from these sources.

The remainder of Part II of the Comprehensive Report for this project consists of separate discussions of case study findings at the nine sites visited. Part I of the Comprehensive Report is separately bound and consists of the Executive Summary, a State-of-the-Art Paper, and Appendices that contain an extensive bibliography on viewtext, a list of libraries involved with viewtext, and a list of businesses and industries providing viewtext products and services.

CASE STUDY REPORT 1

Name of Library:	Gaithersburg High School Media Center
Address:	314 South Frederick Avenue Gaithersburg, MD 20877
Persons Interviewed:	Linda Crump, Media Center Director and Computer Center Coordinator Virginia Lucey, Media Specialist Pat Bowman, Computer Course Instructor
Date of Visit:	January 20, 1984

Library Characteristics

Gaithersburg High School is a suburban, comprehensive high school with a student enrollment of 1,600 for the 1983-84 school year and a projected enrollment of 2,000 for 1984-85. The school is located in Montgomery County, Maryland, a suburb of Washington, D.C.

The Media Center is a spacious, inviting facility with a large multipurpose reading room, a media room, a reference room, a staff office area, and a television studio. The Center has 10,464 square feet of space and can seat 110 students. Attendance, which includes students who come before and after school, during lunch periods, and with their classes, averages about 1,000 students per day. The Media Center is open from 7:30 a.m.-8:00 p.m., Monday and Wednesday, and from 7:30 a.m.-6:00 p.m., Tuesday, Thursday, and Friday.

Media Center holdings include over 14,000 volumes, and the Center has interlibrary loan privileges with public and university libraries in Maryland. Sixty-six periodicals are received, with back issues stored on microfiche. The collection also includes phonograph records, 35mm slides, filmstrips, audio tapes and videotapes, specialized microfiche collections, and appropriate hardware for use with these media. Circulation averages about

800 books, and 300 periodicals per month. Audiovisual hardware and software and microcomputers and their software are circulated to school faculty. A table in the main reading room holds a microcomputer with a printer and modem, the most recent hardware additions.

The Media Center staff include two Media Specialists with master's degrees in library science, one of whom is the Center Director. She also holds a master's degree in curriculum. The second Media Specialist holds a master's degree in mathematics. Both women formerly were high school teachers. The staff also include two media assistants and one technical services assistant. The media assistants are high school graduates who have passed County School examinations in typing and English and have participated in several week-long, in-service training workshops on media-related topics. The technical services assistant is a high school graduate with extensive previous experience as a teacher's aide and as an assistant with television and other instructional media.

The Media Center Director also coordinates the school's computer lab. In the lab, which is located in a separate classroom on the same floor as the Media Center, classes in computer programming, computer applications, and problem solving are taught by teachers from various departments in the school. Personnel from the Media Center provide after-school staffing for the computer lab.

History of Viewtext

Viewtext use was introduced in the Montgomery County Public Schools during the 1981-82 school year by the professional library at the Board of Education as part of the County School program for the continuing education for teachers. The County Schools began by offering searches at their headquarters

on the ERIC database only, accessed through DIALOG. Later they moved to full DIALOG searching. DIALOG has given the County Schools a discounted subscription price to encourage school use.

Before individual schools received modems, the County Schools' librarian brought acoustic modems to each school media center and allowed the staff an opportunity to experiment with DIALOG searching over two-week periods. Then, in 1982, as part of their plan to integrate computers into the entire instructional program, the County Schools purchased one Apple computer for each of the school media centers in the County. At first only the media staff at Gaithersburg High School used the computer, to search ERIC and other online databases for research information. As the staff became familiar with the system's capabilities, they began to instruct classes of students on the kinds of information available from the databases and on the procedures used in accessing that information.

Viewtext use in the Gaithersburg High School Media Center thus began with a County-wide initiative at the school system level, but it has expanded primarily because of the interest and commitment of the Media Center staff, the school administrators, and the faculty.

In addition to purchasing a computer for the Gaithersburg High School Media Center, the County Schools also purchased four computers for science classes and 15 computers for the school computer lab. To encourage a feeling that the lab was available to all students regardless of academic major, the Gaithersburg High School Principal did not assign the facility to any one department. Instead, instructors were selected from various subject disciplines, and the Media Center Director was given responsibility for coordinating the lab program for the entire school.

No new staff were hired for the computer lab. Instead, existing staff were trained through in-service staff development workshops. Many staff members also enrolled in courses on their own initiative.

Viewtext Applications

There are several different applications of viewtext in the Gaithersburg High School. The Media Center uses viewtext for technical and administrative applications, administrative management, bibliographic information retrieval, instruction and training, and electronic mail.

A number of administrative functions previously performed manually now are being handled by computer. Overdue materials are monitored using the Pfs software package. The media specialist reported that the computer seems to add more credibility to the overdue collection system. Students are much less inclined to challenge records of overdue materials when the corroborating information appears on the screen. Using this software, Center Staff also can retrieve bibliographic citations for works in the Center's collection using author or subject searches. The Center and the computer lab are using three word processing software packages, Applewriter, Screenwriter, and Bank Street Writer. Bookends, a reference management system, is being reviewed for purchase.

The Center's Apple computer and modem allow users to search for references online in over 100 files via DIALOG. Using DIALOG, students and staff have accessed ERIC as well as Biosis, Magazine Index, Medline, National Newspaper Index, America History and Life, and Historical Abstracts. The Data Capture software package available to users allows them to edit the information retrieved onscreen and print it out or store it on a disc. Teachers also

can request the librarian at the Board of Education to carry out online searches in specific curriculum areas or in educational research.

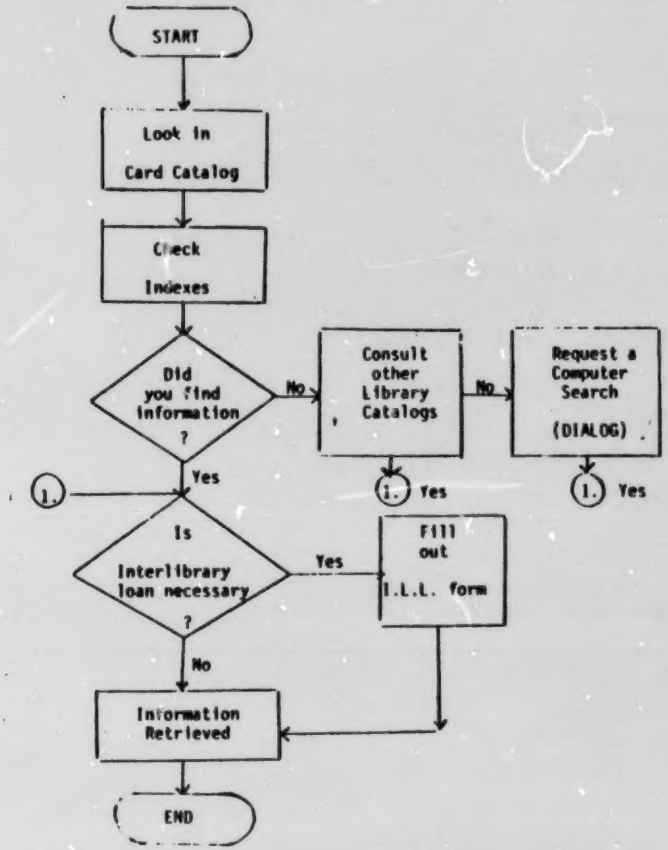
DIALOG was made available by the Montgomery County Schools, but the Center itself has been investigating the use of the Wilson Line database, which contains online access to the Book Review Digest abstracts and other online databases which the Media Center staff think may be more appropriate for the high school level than those available through DIALOG.

The County system and Gaithersburg High School have a strong commitment to preparing all students to conduct research. The School and Media Center promote a research strategy that directs students not only to the card catalog and the reference indexes but also to online databases for information retrieval. Exhibit 1 shows the research strategy flow chart developed by the Center. As a part of the tenth grade curriculum, all students receive 10 classes on Media Center resources and research strategy. Eleventh graders also are required to write a formal research paper as one of the County graduation requirements. Students are required to develop a written strategy for completing this paper, and the production of the paper from initial research to final editing is supervised jointly by the English teachers and the Media Center staff. Usually students carry out an online search at some point in their research. Through this experience, they become familiar with DIALOG and can make efficient use of online searches for subsequent research later in all subject areas.

Many students also take courses in computer programming and in applications of computers in database management, accounting, and problem solving. These courses are taught in the computer lab, but students can reinforce concepts learned in the courses by practicing and doing homework assignments on the Media Center's computer during free periods or lunch

Exhibit 1

Resource Path Finder, Gaithersburg High School Media Center



Card Catalog

- Books
- Vertical File
- Non-print

Book Indexes

- Biography Index
- Play Index
- Short Story Index

Periodical Indexes

- Reader's Guide
- New York Times Microfilm Collections
- Facts on File

Other Library Catalogs

- Montogmery County Public Library
- Montogmery College
- Professional Library
- MICROCAT

Computerized Data Bases (DIALOG)

- Magazine Index
- Medline
- National Newspaper Index
- America: History and Life
- Historical Abstracts
- ERIC
- Oceanic Abstracts

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hours. Informal training occurs as groups of students congregate around the Media Center's computer, observe each other's work, or discuss a search in progress.

Faculty training has consisted primarily of short demonstrations of the system's capabilities. DIALOG, for example, provides a videotape that explains its range of uses. After the initial introductory session, additional workshops are scheduled for each department. These workshops include training in software evaluation and a review of databases in subject areas. Faculty members also can gain experience in the computer lab during afternoon and evening hours. In-service sessions on computer programming are provided for staff two nights a week, and they are always filled. Computers in the Media Center and in the computer lab are available to adult education evening students.

The County Schools Media Department uses an electronic bulletin board to send and receive messages, announce meetings, and share useful search strategies among its high school media centers.

Gaithersburg High School recently has begun to prepare the school newspaper on the microcomputer and transmit it to its printer using the modem and the regular telephone system. This process is cheaper and more efficient than the more traditional typesetting approach, and it also provides first-hand experience with contemporary publication techniques.

The Center also has a videocassette recorder and a small production studio, and students receive training in the basics of television production from the Center's technical assistant.

Organization and Management

The use of viewtext in the Gaithersburg High School Media Center is coordinated at the County Schools level by the Department of Instructional Resources and regionally by one of the three Area Directors for the County Schools. The Department decides what equipment will be purchased and works with the Area Directors to coordinate the purchase of software and allocate funds. Any teacher may request software for preview and complete an evaluation form indicating the appropriate uses for the software. This form is submitted to the Department of Instructional Resources and the item may be added to the approved list of software. Only items on this list can be purchased for use in County Schools.

To avoid duplication and to ensure that a complete list of software is maintained, the school's software inventory is handled by the Media Center. At Gaithersburg High School, the Media Center Director also supervises the use of the Media Center microcomputer equipment and oversees the computer lab. However, this is a local school option. The Director submits to her department, to the Principal, and to the Area Director a bimonthly report which includes statistics on the number of searches and narrative discussions on computer use.

In order to use the computer, students must have user cards. These cards are issued to students who demonstrate the ability to operate the computer and who submit forms signed both by the students and the students' parents stating that the students will not use the computer in ways that violate the Copyright Act. A summary of regulations to be observed is posted next to the computer as well. A first-come, first-serve sign up system is used to regulate the day-to-day use of the computer. Students with user cards can sign up as early

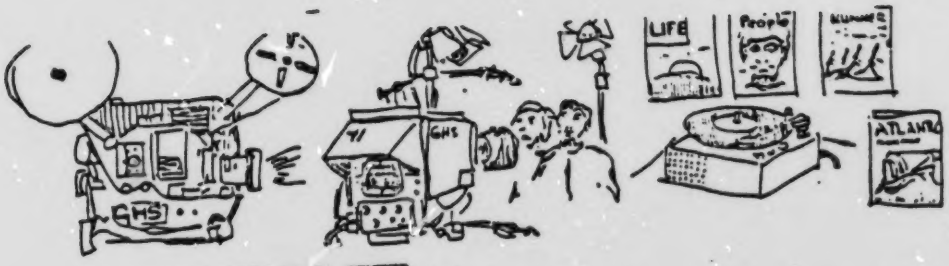
as 7:30 a.m., when school opens, to use the computer during their lunch hours or free periods. Only one student is scheduled per period.

Although the Media Center's computer is located in an area easily accessible to students and in full view of the Center staff, the modem is kept in the staff office and signed out for use to individual students. To obtain DIALOG searches, students submit to Center staff the Request for Computer Assisted Research shown in Exhibit 2. A staff member then meets with the student and the search is conducted and printed out for the student. Media Center staff have begun to save on disc or in print the findings from searches on popular topics to conserve search time later for students with similar requests.

The 15 computers in the computer lab are used during the school day by students enrolled in computer classes. Students, teachers, and adults enrolled in evening courses also may use the computers, but machines are not available for individual use unless a teacher is present because of security concerns. The lab has an electronic security system on the windows and doors. Software and computer textbooks are stored in a locked storage closet when they are not in use, and hardware is locked up during weekends and holidays if it is in the school. To reduce the possibility of theft, faculty and staff are encouraged to take the computers home, especially when there are long school breaks. "It's totally against our training as librarians to keep everything under lock and key," commented one media specialist. "Our whole orientation is to put everything out for use. But with computers, if you leave things out, they just may disappear. We can't take that chance."

Overall, the limitation of time seems to be a major deterrent to transferring more administrative functions to the computer. No new staff were hired when microcomputers were installed, and because of the demands of the

Exhibit 2



GAITHERSBURG HIGH MEDIA CENTER

REQUEST FOR COMPUTER ASSISTED RESEARCH

STUDENT NAME _____ GRADE _____

TODAY'S DATE _____ DATE ASSIGNMENT IS DUE _____

COURSE TITLE AND TEACHER _____

RESEARCH SUBJECT _____

DESCRIPTION OF SUBJECT _____

_____

_____

_____

_____

KEY WORDS TO BE USED IN SEARCH (INCLUDE SYNONYMS, CLOSELY RELATED PHRASES, SCIENTIFIC AND TECHNICAL TERMS)

_____

_____

DATABASE(S) TO BE SEARCHED _____

SEARCH STRATEGY

_____

_____

_____

_____

_____

_____

9/83

existing staff's previously established job duties, there is little time available to learn about new software packages and enter the data required to begin using them. This may become a serious problem for this Media Center and others as viewtext use gains in popularity.

Patron Access to Viewtext

The Media Center provides access to viewtext to three groups of users: students and faculty of the high school, evening adult education students, and individuals and groups in other schools and the community. The Media Center is visited by every sophomore for 10 class periods. Three periods deal with television, and seven are on the use of research strategies and DIALOG. Juniors must take a course called "Language Writing Workshop II," in which Media Center staff and English teachers check all drafts to be certain that students have used appropriate resources, including online searching. All students attending Gaithersburg High School now must have experience with online searches.

Adults and teachers may use the computer lab during after school hours, and the Media Center is always open when the computer lab is open. However, DIALOG searching is available only in the Media Center.

Cost Implications

As mentioned earlier, computer hardware both for the Media Center and the computer lab was purchased for County Schools by the Department of Instructional Resources. The Media Director said she also had used 50 cents per student from the Center's regular budget to fund DIALOG searches. Money provided under Chapter II of the Consolidation and Improvement Act of 1981 was used to purchase software and textbooks for the computer lab courses.

The primary direct cost from the regular Media Center budget was the $1,250 fee for the subscription to the DIALOG system, a fee based on a low $15 per hour online service charge. Other minor ongoing expenses include those for paper and ribbons for the printer and those for blank discs, which were estimated to be about $60 per year. Students are required to provide their own blank discs. The Media Center does not provide discs for users, and they are not sold at the school store. Students buy them at computer stores or at reduced prices from microcomputer users' groups.

With the exception of minimal stipends paid to members of the Media Center staff to supervise the computer lab during the evening hours, no extra monetary compensation is provided to any staff members for assuming new duties related to the computer.

Some indirect costs have been incurred, however. Students and teachers using DIALOG have identified journals and periodicals not being received by the Media Center, and some of these have now been ordered in microfiche. This demand for additional journals also has led to the need to purchase more microfiche storage units, readers, and printers.

Funding for the computer lab and the Media Center does not seem to be a problem at the present time. The Media Director did note, however, that within the school they have to operate within their allocated funds and cannot expect to receive help from sources such as the PTA. She said that in high schools only athletics usually get support from those groups in contrast to the situation in elementary schools where parents are more involved with other curriculum areas.

Program Results

The gradual process used by the Montgomery County Schools to introduce computers into the Media Center and the instructional program has enabled the Media Center to integrate viewtext into its services in a period of only one year. The decision of the school administration to coordinate computing activities through the Media Center has allowed the Center both to expand its own services to integrate online searching and to serve as the facilitator for computing activities throughout the school. As a result of the efforts of the Media Center staff and the faculty, all high school students are being familiarized with online searching. However, because DIALOG is primarily oriented towards science, students requesting additional searches after their original exposure usually are students in the "Contemporary Issues in Science" course.

All teachers now can request searches in their subject areas, and the teachers have begun to expect online searches as a result of continuing efforts to publicize the currency of online information. Teachers are involved in software evaluation and in learning to write instructional software, and Media Center activities have been a critical factor in developing and supporting necessary teacher training. Online searching capability has encouraged resource sharing between the Gaithersburg High School Media Center and other area schools, libraries, and the community.

The availability of word processing and database management software has increased the productivity of the Media Center staff. Online searching also has increased the staff's ability to provide professional reference service to patrons. The courses provided in the computer lab seem to appeal to all facets of the student body. Teachers teaching courses in the computer lab include math, business education, science, and remedial math teachers. Of the

199 students enrolled in computer courses, 108 are males and 91 are females. Minorities comprise 14 percent of the student body, but they make up 16 percent of the computer lab enrollment.

Outreach

The Media Center's outreach is extensive. The Center works closely with other local schools, libraries, and the community. The staff have done online searching for area junior high school students through a cooperative arrangement with the local junior high school media center.

The Center also has a special project which brings in fifth and sixth graders from Gaithersburg High School's feeder schools and provides instruction in computer literacy. Adult and continuing education classes are held in the school on two nights each week, and the Media Center is open on those nights to the entire community.

The Center has close links to local community college and County public libraries. Students in Montgomery County can use two community college libraries located near Gaithersburg High School which are open on weekends when the high school is closed. This makes DIALOG searching particularly valuable, since research materials identified online that are not in the Media Center often are available at these libraries or at the public library which is only a half mile from the high school.

The school is exploring with County businesses the possibility of arranging internships for teachers during vacation periods to keep them in touch with current technology, and the Media Center is involved with other County agencies in local planning for cable television.

Future Goals and Objectives

The Center is a pilot test site for the Wilson Line database and plans to provide the H.W. Wilson Company and the County with feedback on the use of online subject indexes in this new database.

In future years the computer science program will have to be expanded if Gaithersburg students are to be prepared to take the Advanced Placement (AP) Test in Computer Science. PASCAL, the programming language used in that test, is not now offered at the school. The Center expects to play a key role in the expansion of school computer use. The Apple computers in the computer lab are in use seven periods a day. This level of use has prompted the schools to request hardware from the County for a second lab in schools that have one lab and for a first lab for all schools that now are without any. With this added computer capacity, Gaithersburg High School could expand computer use to classes in journalism, social studies, and math graphics. Computers for the new lab probably would be IBM Personal Computers. The Apples now housed in the lab then could be loaned to faculty on a regular basis to encourage them to develop software as they became proficient in BASIC and PASCAL through evening in-service courses. If funding for this additional hardware is provided, the Media Center staff will coordinate these school activities.

The Center also is working to develop better ways to communicate information to students and faculty about the school's computer resources. The circulation of lists of software has not provided adequate information to faculty members on the contents of software packages, and the use of Media Center or computer lab memos and departmental meetings and workshops is now being considered.

The Media staff would like to add a computer-assisted Scholastic Aptitude Test (SAT) preparation program to the computer software collection, since they feel that the research supports the premise that computer-assisted SAT study programs improve scores.

Also in the planning stages is the introduction of cable television. The cable system extends throughout the three communities of Gaithersburg, Takoma Park, and Rockville, Maryland. The cable franchise requires that every school in the County have a cable drop to provide access to three educational channels. One channel will be for the County's use, and two for sharing among 50 County schools. Two-way cable for homebound students is being investigated by the County, and it also hopes to offer internships for seniors interested in careers in cable television.

Lessons Learned

Media Center staff said they had learned very quickly to supervise the use of telecommunications hardware and make students aware that, in a school setting, information to be accessed should be related to curriculum objectives. The use of modems for frivolous purposes had to be discouraged.

The introduction of cable in the school also created some problems. Although the cable drop is free, the school had to be rewired at a cost of $15,000 to support the cable system. Another restriction on the use of cable is the fact that the school has only five television receivers for its 87 teaching stations. The Media staff also are concerned that publicizing and enforcing videotaping copyright regulations will present problems.

Experience has shown that selecting and acquiring software will not ensure its use unless strategies are developed that permit the potential users to learn how to apply software capabilities to meet their own needs. Lending

microcomputer software to teachers for out-of-school use has proved advantageous both to the teachers and to the school. The teachers have opportunities to set up and operate equipment, to practice computer programming skills, and to try out software. The school benefited from having the equipment in a secure place and from the increase in the number of faculty members who know how to assemble and disassemble a system and to use it appropriately in instruction. The Center also has learned that Media Center staff hours have to be flexible if all potential users are to have opportunities to use the school's computers.

The Media Director observed that the excitement of learning and being a part of something new and different seems to be incentive enough to encourage the members of the school staff to learn about and use Viewtext.

References

The Media Center publishes information on its program for patrons and also distributes the County brochure entitled, "Computerized Database Searching in Your Media Center."

Additional information about the Center may be obtained by contacting:

Linda Crump, Media Center Director, (301) 926-1920, Ext. 28.

CASE STUDY REPORT 2

Name of Library:	IBM Thomas J. Watson Research Center Library
Address:	Yorktown Heights, NY 10598
Persons Interviewed:	Phyllis Stigall, Library Manager Isabel Cawley; Reference, Collection Development, Bibliographies Ellen Howling; IBM Technical Information Retrieval Center (ITIRC), Profiles, Searching Kathleen Falcigno, Publications Helen Meyer, Circulation Carol M. Potemski, Journals Eleanor Ratledge, Book Orders Kitty Stoeber; Text Processing, Statistics
Date of Visit:	January 23, 1984

Library Characteristics

The Thomas J. Watson Research Center, located in northern Westchester County, New York, is a scientific and technical library of the IBM Corporation. The Library includes 6,470 square feet of public space and 1,536 square feet of work space. There also is remote storage on site in the math and physics departments and at the IBM laboratory in Eastview, New York.

The Watson Research Center is a small division of IBM, with headquarters in Yorktown and additional laboratories located in San Jose, California; Zurich, Switzerland; and Eastview, New York. The Library's main purpose is to provide scientific and technical information to aid IBM scientists in current and future projects. In addition, the Library provides a variety of sources of information to help in decision making by divisional and departmental management.

The Library is a self-service facility which is open 24 hours a day, seven days a week, with staff on duty Monday to Friday from 8:00 a.m. to 4:30 p.m.

Open stacks and self-service circulation allow easy access to the collection at all hours. There is a professional staff of nine, three of whom, including the Library Manager, hold degrees in library science and have had some training in computer programming. Library holdings include 38,000 books, 26,000 bound volumes of journals, 2,300 journal titles, 4,914 cartridges and reels of microfilm.

History of Viewtext

In 1963 the first computer program was written for the Library to track orders and automate cataloging. The present system is based on that original one, which used handwritten 80-column layout sheets from which keypunching was done.

Also in 1963, an automated circulation and acquisitions program was written using the same software principles as were used for catalog automation. Several versions have been written since, as more powerful systems have become available. However, the Library still has a card catalog, and many patrons prefer it to the online catalog.

In the years since 1963, the Library has acquired a wide range of general-purpose utilities for text processing and data management. When appropriate software was not available, programmers from the Center also wrote special library software. The Library Manager said that a research scientist designed the special software that allows her to identify and print out citations for publications by scientists working in specific departments.

Viewtext Applications

The Library has available a variety of very powerful mainframe computers and systems as well as stand-alone microcomputers, and the staff use viewtext

to carry out their publications responsibilities as well as for technical processing, reference, and administrative tasks. At the present time, every Library staff member has a terminal in her work area, and there are two for patron use located in the public areas. Library staff also can use the services of the computer center located on the first floor of the building.

The whole spectrum of library tasks is computerized. Library staff use IBM Model 3277 or 3279 terminals to communicate with IBM's mainframe computers. These computers store very large files for immediate access and also provide additional archival storage. All staff use electronic mail and message systems. Bibliographers have available the Yorktown Formatting Language (YFL), which permits materials to be word processed, formatted in appropriate columns and indentations, and printed in a variety of type faces. An example of the versatility of this sytem is its use in creating poster-sized bibliographic citations of books written by individual IBM authors. YFL also is used to develop New Books Bulletins, an example of which is shown in Exhibit 3.

Several online files have been developed by the Library staff. One contains information on publications by IBM authors that have appeared in the open literature since 1950, including both papers published in proceedings and forthcoming papers. To keep this file current, the Library requests that when Watson Center scientists submit an article for publication, they send a copy to the Library, together with a form describing the article and identifying the journal in which it is to be published. The publications unit then enters this information online. When this unit later receives word through a weekly printout from the Institute for Scientific Information (ISI) that the paper has been accepted for publication, the Library arranges for payment of the

Exhibit 3

New Books Bulletin

new books

from the Library
at the
IBM Thomas J. Watson
Research Center

To request any book, simply write the appropriate sequence number on the last page and forward it to the Library.

For books already on loan, your name will be added to the reserve list.

ELECTRONICS

1. **Applications of GaAs MESFETs.**
Soares, R., ed.
TK 7874.A66 1983

MATHEMATICS

2. **Mathematical sciences professional directory.**
American Mathematical Society
QA 1.A512 1983

3. **The mathematical heritage of Henri Poincare.**
Browder, F.E., ed.
QA 1.A5218 v.39 1983

4. **Four papers on differential equations.**
Krein, M.G.
QA 3.A541 v.120 1983

5. **The Kourovka notebook - unsolved problems in group theory. Translated from the Russian.**
Kourovskaia, T.
QA 3.A541 v.121 1983

6. **Convergence of solutions of the Kolmogorov equation to travelling waves.**
Bramson, M.
QA 3.A57 v.285 1983

7. **Geometrical methods in congruence modular algebras.**
Gumm, H.P.
QA 3.A57 v.286 1983

8. **R-linear endomorphisms of Rn preserving invariants.**
McDonald, B.R.
QA 3.A57 v.287 1983

9. **A simple definition of the Feynman integral, with applications.**
Cameron, R.H.
QA 3.A57 v.288 1983

10. **Algebraic geometry:** proceedings ... Tokyo and Kyoto, October, 1982
QA 3.L28 v.016 1982

11. **Graph theory:** proceedings ... Lagow, Poland, February, 1981
QA 3.L28 v.018 1981

12. **Cabal seminar:** proceedings ... Caltech-UCLA, 1979-81
QA 3.L28 v.019 1983

13. **Non commutative harmonic analysis and Lie groups:** proceedings ... Marseille-Luminy, 1982
QA 3.L28 v.020 1982

14. **USSR-Japan symposium on probability theory and mathematical statistics:** proceedings ... USSR, August, 1982

Exhibit 3 (Con't)

To request any book list the sequence number(s) e.g. 1, 2, 3 .....
Fold and return to the Library. Please do not staple.

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

NEW BOOKS BULLETIN ONLINE

YKTVM users can access the New Books Bulletins online.
For information and instructions:
Type: newb ?

CHECK HERE _____ IF YOU NO LONGER REQUIRE PRINTED COPIES.

****

NEW BOOKS

COPIES = 1
IBM SERIAL 984425
PHYLLIS G. STIGALL
DEPT. 411

88-K07

journal's page publication cost and for article reprints for the author and enters the publication information online.

This procedure ensures that the Library's online information on the Center's research publications is more current than any existing hard copy source. Abstracts in hard copy are available for every paper since 1980, and copies of all reports can be ordered online by any employee. To be sure that no publication by a staff member is overlooked, a bibliography of all works published is generated yearly and distributed to the research staff for review.

Journals are the most important part of the Library collection, and serials ordering and processing have been automated in the past year. Most journals are ordered from one vendor. The present system was described as much more efficient than the system formerly used, in which the staff typed a separate purchase order for each of 1,500 periodicals. The old system required three months of each year for the serials Librarian to complete the separate orders. By comparison, she now prepares a list of journals on a single purchase order and submits it to the vendor, who can order directly from most serial publishers.

The serials Librarian said that the automated ordering and delivery system costs about the same amount per journal as did the former system, but it is far more efficient, and more journals can be processed in the same time. Serials are sent from the publisher to the Library, and high school student interns log them in every afternoon, under the supervision of the serials Librarian, thus reducing the professional time devoted to this task. As the journals are accessioned online, any missing issues are noted, and instructions to locate missing items are forwarded to the vendor. The system's printer automatically generates the printed routing list to be

attached to the journals so that they can be sent directly to patrons through the internal mail system.

The Library has subscribed to the DIALOG database since 1975, and in 1983 it also began subscribing to the Bibliographic Retrieval System (BRS) database. It accesses both systems through TELENET, and the librarians said that both DIALOG and BRS have most math, science, and engineering databases required by Library patrons.

Viewtext has been used for acquistions only since July 1983. Books are acquired by the Center Library through IBM's Library Processing Center (LPC). A computer program generates book request forms at the Watson Research Center Library and forwards them to the LPC online and then to the vendor. Books are delivered to the Library within six to eight weeks, ready to go on the shelf. As titles are received, they are matched against book requests, so that materials can be sent immediately to the persons who requested them. The LPC staff catalog books using a photocopy of the title page and the verso page and incorporate OCLC cataloging to the extent possible. Each book is given a unique library accession number.

Books are checked in and out using an online system that files each book by its accession number, call number, and author. Books returned are logged in online, at which time the librarian can identify any reserve requests for them and send the books immediately to the requestors. When a request for a book is received from a patron, the circulation Librarian checks the online catalog and has the book sent to the requestor if it is in. If it is not in, she places a reserve in the online book record so that when she receives the book, she can identify any requestor and send the book immediately to that patron. Thus, many patrons deal with the Library without physically entering it.

The Watson Center Library also can use off-site corporate information resources. The IBM Technical Information Retrieval Center (ITIRC), located in Sterling Forest and White Plains, New York, serves as a clearinghouse for IBM technical reports, government reports from the National Technical Information Service (NTIS), Government Reports in Microform (GRIM), etc. These materials can be identified and ordered online. The Library also keeps in an online file a record of the holdings of 33 other IBM libraries from which the Center can borrow materials.

Organization and Management

The Manager of the Watson Research Center Library has overall divisional responsibility for publications as well as reponsibility for directing the Center Library. Viewtext use in each department is under the direction of a member of the professional staff, and the Library Manager has developed a number of procedures to ensure that viewtext applications will encourage the efficient use of resources. She stresses that her staff are teaching staff, who provide patrons with information that enables them to use publications, periodicals, and online databases to further their research objectives. She sees the IBM Corporation as the beneficiary, not just the user, of information accessed through the Library.

Each department in the Research Center appoints a person who can speak for that department with the Library staff to solve any problems that arise. This liaison permits the staff to become aware of patron concerns and to communicate with the departments when resource constraints, usually lack of available library space, will result in unpopular Library policies. An example of such a problem is the need to store back issues of periodicals in microfilm because space for paper copies is limited.

Patron Access to Viewtext

The Library's patrons are the 650 scientists at the Watson Center and 1200 other members of the Research Center staff.

Researchers at terminals in their own work areas or in the Library can order copies of journals or books identified online and have them delivered to work areas. They also can access online both DIALOG and BRS. Through internal IBM online services, they can access information on IBM research reports, which are grouped in the internal IBM publications database by broad subject headings. Report titles, authors, report numbers, department numbers, dates of publication, and numbers of pages in the reports are provided. This information can be used to order abstracts of the reports in Research Advance Abstracts, a printed Library publication available in hard copy. The Library also publishes a cooperative list of the 4,258 periodical title holdings of 33 participating IBM libraries.

Using the online command "Photocop," users may request photocopies of any journal article. Orders for photocopies can be filled at the Center Library or forwarded by the Library to ITIRC, which delivers the copies directly to the requestor and charges the costs, including copyright costs, to the requestor's department. Royalties are paid through the Copyright Clearance Center.

Typing "NEWB" gives users access online to the New Books Bulletin, which shows authors, titles, publishers, places and dates of publication, and call numbers of titles on the latest biweekly list of new books received at the Library. "NEWB" will access the latest book list, while "NEWB 83" will access all new books for 1983.

The command "BOOKS" enables users to place a book order online, for delivery immediately if available. If the book is not available, the request

is noted and a reserve is placed so that it will be delivered as soon as it is returned to the Library. Hard copy of the New Books Bulletin is circulated with a tear sheet attached that also can be used to order a book through the Center's internal mail system. When such tear sheets are received in the Library, the circulation Librarian calls up the online record of the book so identified and enters the reserve request.

Cost Implications

Searching, text processing, and electronic mail account for 14 percent of the Library budget. The Library Manager said that the provision and delivery of viewtext services have not decreased the cost of Library operations, but have made them more efficient. Staff levels have dropped from 14 to 9, and high school and college student interns now do many tasks formerly done by the professional staff.

The decrease in needed professional staff also was possible because of a decision to use vendors to perform many labor-intensive jobs in the acquisitions and serials departments, which really did not require professional skill. Electronic mail also increases efficiency, making it possible to communicate more easily with IBM personnel at all locations without tying people to their telephones.

One cost cutting decision that the Library made was to insist that departments within the Research Center pay for materials from their own budgets if the materials are for use only by the departments and not for general library use. Formerly, all materials were purchased and acquisitioned by the Library. Now, however, individual departments autonomously purchase and hold journals and books that are for the exclusive use of their own

project staffs. They are never accessioned or cataloged, and hence they do not appear in the online catalog.

Staff training has not been very costly. Vendors initially provided training both in DIALOG and BRS, and employees receive additional training as new databases come online in the two systems. The Library holds seminars specifically for its own operation, and Library personnel attend many in-house general courses for scientists and secretaries on a wide range of subjects, such as the use of editing programs.

High school interns receive their training on the job. Since computers now are in common use in area schools, most student interns are familiar with computer terminals when they arrive at IBM. The work they do is not overly complex, in any case, and they are closely supervised.

Program Results

Library statistics show an increase in photocopy requests of 23 percent between 1979 and 1982, probably due to the ease of ordering photocopies online. There also was an increase of 123 percent in DIALOG searches, from 344 in 1978 to 770 in 1982.

BRS is accessed through ITIRC, which provides at-desk links to its own files and those of BRS. ITIRC use rose by 32 percent between 1978 and 1982. The Library staff believe this added use is related to BRS, but separate statistics are not kept.

The Library recently conducted a series of group meetings with users to talk about Library needs. It found that from the patron's perspective:

(1) speed of access to information is essential;

(2) hard copy must be kept, even of materials available online or in other forms; and

(3) at-desk and other online services are vital to some patrons, but entirely unused by others.

Outreach

The Library has continual communication with other IBM libraries and also holds membership in such organizations as the engineering societies and the Westchester Medical College Library. In the local community, the entire Center has very strong ties to local high schools. Student interns work in all departments, including the Library, every school day.

The Center shares information on its work with the local community. The Library's reference services are available to the general public by appointment, and the Library Manager works with such organizations as the Association of American Publishers and the Drexel University College of Information Studies to publicize the work of the Watson Center Library and exchange knowledge about technology.

The Library has close ties to library schools and accepts students of their programs for six-month internships. It feels that this allows students to gain hands-on experience and keeps the Center staff in touch with contemporary library science theory.

The Center also sent two Library staff members to spend six months at the National Commission on Libraries and Information Science (NCLIS) in Washington, D.C., to meet professional colleagues and carry out research in the areas of technology assessment and work productivity.

Future Goals and Objectives

The Library plans to expand its facilities. A satellite library will be opened in 1985 in leased space, and a second library will open in 1987 when a second Research Center building is opened.

The staff expect to increase their use of viewtext where it is appropriate. They plan to expand their automated charging system, and they already have bar coded their books. However, the Library Manager does not anticipate that they will be using videodiscs in the near future because of the reluctance of patrons to read materials displayed onscreen. She does expect greater use of teleconferences, however, not to reduce face-to-face meetings, but to improve preparation and follow-up to make such meetings more productive.

The Library intends to continue providing internships for library school students and to expand the program to schools not formerly involved.

Lessons Learned

The Library has found that not all purchasing can be automated, because some books and journals still must be ordered directly from publishers. The acquisitions Librarian also said that libraries contemplating conversion to an automated system should select a vendor with a large-scale operation. IBM uses such a vendor, and the Center has been very satisfied with its services.

Reference librarians said that they find it difficult to use more than one online system at a time because the protocols for accessing and using each one are very different. They find it time consuming to move between BRS and DIALOG, the two systems to which they subscribe.

Overall, the Library staff have found that the availability of increased access to information about the Library's resources and the capability to order materials online are transforming the Library. Statistics show increased use of Library resources, but the Library Manager said that the Library becomes quieter and emptier all the time.

On the whole, those patrons who do come to the Library prefer to use the card catalog and to use materials in hard copy, which they can take with them. Most of the Center's researchers spend a considerable amount of their work days at terminals, and when in the Library, many do not like to view materials onscreen.

References

Discussions of the Watson Research Library and its services are contained in the following two publications:

Stigall, P.G. Guide to the IBM Thomas J. Watson Research Center Library. Yorktown Heights, NY: IBM, 1983.

_____. "Using new technology in the IBM Research Center Library." Address to the American Association of Publishers, New York, NY, December 12, 1983.

For further information, readers also may contact:

Phyllis Graham Stigall, Library Manager, (914) 945-1289.

CASE STUDY REPORT 3

Name of Library: Lorette Wilmot Library

Address: Nazareth College of Rochester
P.O. Box 3908
Rochester, NY 14610

Persons Interviewed: Richard Matzek, Library Director
Scott Smith, Reader Services Director
and Online Coordinator
Jan Carr, Media Services Director
Sally P. Atkinson, Library Automation Project Director

Date of Visit: January 26, 1984

Library Characteristics

The Lorette Wilmot Library is the library of Nazareth College of Rochester. Originally this school was a denominational women's college. Now it is a private, independent liberal arts college for men and women, located in Rochester, New York, a few minutes' drive from downtown and adjacent to the village of Pittsford. The College offers 40 majors, including preparation for careers in business, teacher education, music therapy, nursing, and social work. The 75-acre campus has undergone significant expansion in the past decade, and its 15 buildings serve 3,000 students. More than two-thirds of the full-time undergraduate students live on campus. The expansion of the Library programs and the recent construction of new campus buildings reflect the excellent support the College enjoys.

The Library is open 97 hours a week, Monday to Thursday from 8:00 a.m.-11:00 p.m., Friday from 8:00 a.m.-10:00 p.m., Saturday from 10:00 a.m.-10:00 p.m., and Sunday from noon until 11:00 p.m. The Library has 42,000 square feet of space, and seating for 450 patrons. The Library staff include seven professionals, six with library science degrees and one with advanced work in media, and other staff totaling 16 full-time equivalent positions.

The Library houses more than 200,000 volumes, and 1,250 serials are maintained. On an average, 200 books circulate each day, 50 pieces of media equipment are delivered, and 850 patrons use the Library. The automatic gate counter shows that Library use increased by 8 percent between 1980 and 1983 and total per-student use increased 37 percent from 1979 to 1984, despite a slight decline in student enrollment between 1980 and 1983.

The media center on the lower floor of the Library offers access to a collection of disc, tape, and cassette recordings; videocassettes; 8mm and 16mm films; slides and filmstrips; and microcomputer software and provides rooms for the use of audiovisuals by two to 75 people. The Library also provides low-cost online searching and photocopying for patrons and makes available typewriters, computer terminals, and a late-night study center.

History of Viewtext

The Lorette Wilmot Library joined OCLC in 1980. Before that time, it had no automated functions and no online search capability. Since that time, the facility has evolved from one with no electronic technology to one with a very ambitious viewtext program. It offered online searching to patrons for the first time in the 1980-81 school year and began to collect data on searches.

In 1982-83, the Library successfully proposed to the Rochester Area Resource Exchange (RARE), a state-funded intertype pilot project, that RARE provide funds for demonstrations and actual online searches, during college vacation periods, to enable local high school students and faculty to become familiar with viewtext technology.

Several key steps were taken in 1982-83 to move closer to the implementation of an integrated library system concept, according to the Library Director. The College provided a planning fund in 1982 to support

visits by library staff to libraries and vendors, consultation with library automation experts, and presentations and demonstrations to the Library staff, administrators, the Library Committee, and the Academic Affairs Committee of the Nazareth Board of Trustees.

In the 1983-84 school year, the Board of Trustees of the College authorized the Library Director to develop a plan for a fully automated library system. After reviewing the options available, the library professional staff selected the AVATAR system, since purchased by OCLC and being released as the LS/2000 system. Its development and implementation are underway and are expected to take three years. An Automation Project Director familiar with similar projects was appointed on a three-year contract to oversee the system installation. The Board of Trustees approved and funded the Integrated Library System project which included:

- a three-year appointment of a Project Director and staff for implementing the system,
- selection of a system and ordering and installation of equipment and software,
- institution of retrospective conversion,
- testing the new system, and
- initiation of a successful automated circulation system by the end of 1984 and testing of an online catalog of certain materials.

Capital equipment funds also were made available by the College for microcomputers in the media center and to fund necessary remodeling. By February 1984, the media center housed a lab with eight public access microcomputers. Several staff microcomputers also are in use, including one at the reference desk for online searching.

Viewtext Applications

Viewtext use reflects the philosophy of the Library's professional staff that whatever information patrons need should be equally accessible to them, regardless of whether it is contained in print materials, audiovisual formats, or computer databases. Viewtext is being used to further this goal in reference, circulation, interlibrary loan, technical services, serials, and acquisitions as well as in the school's instructional programs.

Three OCLC terminals are in use, and the Library participates fully in the OCLC Interlibrary Loan System. It anticipates that its participation will increase as it begins to enter its holdings into the database as part of the retrospective conversion required to automate the Library. All reference staff members are trained in online searching, and learn to use new databases as time permits and as the need arises. A collection of manuals and documentation on the online databases has been organized and is maintained at the Library's reference desk.

In order to make effective online use of their holdings, the staff are entering them as quickly as possible into the OCLC database which will soon be linked to the LS/2000 system. This activity represents a massive undertaking involving the input of 50,000 titles per year for three consecutive years. The Library already has begun creating an online file of media holdings and software, which has necessitated recataloging 1,100 of the 1,700 software entries in its catalog according to Anglo-American Cataloging Rules (AACR) II and OCLC specifications. It has had to develop interim standards for the cataloging of floppy discs, pending directions from OCLC on these formats.

Fee-based online searching is presently being integrated into the general reference activity. Two terminals are now available for searching.

The Acquisitions Librarian has developed a microcomputer-generated list of rental book titles and is using bibliographic databases to verify titles for materials to be ordered and to develop the Library's collection. She has found the online databases especially useful for generating in-print lists of materials for the school's special collections on G. K. Chesterton and Thomas Merton.

A microcomputer database of periodicals is presently being developed. This database, to be implemented on the Apple II, will be used to generate information such as titles collected for the bindery, subject lists, microform subscription status, etc. The Library subscribes to 25 microcomputer journals, many of them for special subject areas such as applications of computers to the teaching of art and music.

Organization and Management

The Library Director oversees all viewtext operations, but he credits the Online Coordinator with fostering a strong beginning for the online systems by successfully integrating online searching into general reference activity.

Responsibility for serials is shared between the Acquisitions Librarian and the Serials/Media Librarian. When the automated system is complete, the Technical Services Department will take over some of this responsibility.

The professional who serves in the role of Media Services Director has responsibility for overseeing the public use computer area. Library staff members and faculty select and supervise the loan of computer software. The Library's media holdings will be among the first areas to become directly searchable on the system.

The Automation Project Director works directly with the vendor who is installing and testing the LS/2000 system. She is responsible for the implementation and maintenance of the LS/2000 system, which will include an online public access catalog (OPAC), circulation and reserve control, serials and acquisition subsystems, and a media services control subsystem. She will also provide training for staff and patrons. At the time of the site visit, the Automation Project Director had just joined the staff on a full-time basis.

Patron Access to Viewtext

Searches for students and faculty now are done both by appointment and without prior appointment at the reference desk. Faculty members tend to regard access to microcomputer training as a form of job enrichment and an opportunity to develop highly valuable skills, and the Library encourages faculty members to be involved in viewtext activities, pointing out the capability of the technology to free educational professionals from time-consuming, routine tasks.

Cost Implications

The College does not plan to increase either staff or budget to integrate viewtext, but the Director expects that the present staff will be able to be more productive as a result of the capabilities provided by the technology. At present, students pay one-half of the first $10 of online access charges, except that searches on the Medline database are free, as are searches for materials that are indexed in print publications but are not available in the Library. Faculty searches are free, and about 85 percent of the cost of online charges is absorbed. The Library Director pointed out, however, that the total cost of the online operation is below the combined cost of one-year

subscriptions to Chemical Abstracts and Biological Abstracts, both of which can be accessed online. Subscriptions to these services were discontinued in the early 1960s at a time of institutional de-emphasis of the science curriculum.

Although the integration of viewtext into library services has been costly, it has been carefully planned and well supported by the College, with the cooperation of the Library staff. For example, three OCLC terminals are in use in the Library from 7:00 a.m.-9:00 p.m. during the work week, and the staff have changed their traditional work hours to be able to input data into OCLC in other than prime-time hours (9:00 a.m.-5:00 p.m.). This rescheduling has decreased costs by 15 percent, while simultaneously increasing staff productivity.

One-third of the Library budget is spent for materials. Online search expenses are included in the supply budget, and they slightly decrease the amount left for other supplies and materials. Computer software costs have exceeded budget projections, and the Library has had to shift money away from line items for other materials. However, some of the recent online searching was carried out with high school students and faculty and funded by RARE and did not impact the Library budget.

Program Results

Lorette Wilmot Library is very user-oriented, and the staff have been able to demonstrate to users the value of microcomputers and of immediate access to current information online. This has resulted in the establishment of a climate on the campus for accepting viewtext use; however, student use depends on encouragement by instructors. Therefore, the Library has conducted frequent demonstrations on DIALOG in classrooms. These demonstrations have been found to be a major influence on increased student use.

Annual reports and six-month reports of Library activities include statistics on the use of each online database. These reports showed a level of online activity at Nazareth College by 1981 that already was far higher than levels at comparable institutions and closely approximated use at a much larger institution.

Total interlibrary loan activity has increased by 60 percent in two years, with steady growth both in materials loaned and borrowed. The Library conducted a preliminary survey at the start of its online search service in the Spring of 1980. The response rate was 76 percent of those participating in online searches. Since the responses were overwhelmingly positive, the Library concluded that online searching would continue to be a valuable and effective service, and this has proved to be the case.

This trend continued into the 1982-83 school year, which saw an increase of between 18 and 30 percent in DIALOG searches over the previous year. A disparity between the increase in total searches (25 percent) and the total number of topics (18 percent) also reflected the increasing complexity of user topics. The total number of online searches (defined as a single use of a database) grew from 485 in 1980-81 to 764 in 1981-82 and 1,050 in 1982-83; this total will again be exceeded in 1983-84 inasmuch as 795 searches were performed in the first six months of the year. Exhibit 4 shows overall online use and costs for 1981-83 by database, according to the Lorette Wilmot Library Annual Report. Exhibit 5 shows use by individual databases in DIALOG.

Thirty-five new periodical subscriptions in all areas have been added to the Library's collection in the current year, and many of these were added because they were identified by patrons through online searches.

Exhibit 4

Online System Use, 1981-83, Lorette Wilmot Library

A. DIALOG SYSTEM

Status	Undergrad.	Grad.	Faculty	Library	Admin.	Non-Naz.	1982-83 Total	1981-82 Tot:
Searches	342	116	130	94	22	16	720	574
Topics	174	102	69	55	11	10	421	356
Cost/Search	9.97	6.94	12.42	3.19	7.78	10.77	8.40	6.87
Cost/Topic	19.72	11.66	16.92	5.44	15.56	17.22	14.36	11.07

B. National Library of Medicine Databases

Searches	193	93	28	16	0	0	330	190
Topics	93	60	8	7	0	0	168	116

C. Totals for DIALOG and National Library of Medicine

Searches	535	209	158	110	22	16	1,050	764
Topics	267	162	77	62	11	10	589	472

D. Figures for Nazareth College/RRRLC/RARE Council Online Searching for Secondary School Students Project

1. Number of searches performed (single use of a database): 173
2. Number of topics searched (not as class demonstrations): 22
3. Number of topics searched (as class demonstrations): 74
4. Total elapsed connect time: 21 hours 30 minutes 33 seconds
5. Total connect time cost: $ 1,290.60
6. Average cost per search (single use of a database): $ 7.46
7. Number of high schools participating: 14
8. Number of high school student participants: 339
9. Number of high school teacher participants: 23

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Exhibit 5

Online Use by Database, DIALOG Databases Only

DATABASE NAME	CONNECT HOURS Number	% of Total	COST
ERIC	56.681	43.4	1,312.18
PSYCINFO	10.246	7.9	627.75
BIOSIS 77-	7.171	5.5	511.25
MAGAZINE INDEX	6.3	4.8	450.20
HISTORICAL ABSTRACTS	5.895	4.5	395.63
CA SEARCH 82-	5.013	3.8	430.44
MLA BIBLIOGRAPHY	2.879	2.2	244.30
NEWSEARCH	2.373	1.8	225.44
CA SEARCH 77-79	2.101	1.6	168.33
NCJRS	2.074	1.6	86.49
RILM	1.946	1.5	139.24
SOCIOLOGICAL ABSTRACTS	1.929	1.5	106.89
NATIONAL NEWSPAPER INDEX	1.928	1.5	148.78
AMERICA: HISTORY & LIFE	1.71	1.3	128.70
MEDLINE 80-	1.488	1.1	92.08
DIALINDEX	1.198	.9	41.93
USPSD	1.169	.9	78.99
SPIN	1.125	.9	39.38
MATHFILE	.999	.8	66.15
EXCEPTIONAL CHILD EDUCATION RESOURCES	.947	.7	30.65
CA SEARCH 80-81	.919	.7	71.66
FOUNDATION GRANTS INDEX	.798	.6	90.18
ENVIRONMENTAL PERIODICALS BIBLIOGRAPHY	.741	.6	48.21
MICROCOMPUTER INDEX	.712	.6	32.04
GRANTS	.666	.5	66.36
BOOKS IN PRINT	.664	.5	43.16
PAIS INTERNATIONAL	.621	.5	46.86
CA SEARCH 72-76	.556	.4	41.18
FOUNDATION DIRECTORY	.53	.4	53.00
ONTAP ERIC	.512	.4	7.68
CHILD ABUSE & NEGLECT	.487	.4	17.05
NICEM	.487	.4	39.89
LISA	.438	.3	37.85
ENVIROLINE	.415	.3	42.30
PHILOSOPHER'S INDEX	.408	.3	22.44
ARTBIBLIOGRAPHIES MODERN	.404	.3	24.24
MANAGEMENT CONTENTS	.372	.3	28.47
CHEMNAME	.364	.3	92.97
FEDERAL REGISTER ABSTRACTS	.363	.3	27.23
HEALTH PLANNING AND ADMINISTRATION	.363	.3	12.71
MEDLINE 75-79	.326	.3	11.41
INTERNATIONAL SOFTWARE DIRECTORY	.311	.2	18.66
CHEMICAL INDUSTRY NOTES	.279	.2	28.81
INTERNATIONAL PHARMACEUTICAL ABSTRACTS	.263	.2	14.47
COMPREHENSIVE DISSERTATION INDEX	.257	.2	17.99
ENERGYLINE	.239	.2	23.61
BIOSIS 69-76	.238	.2	21.84
Total	127.97	98.15	$ 4,224.47 *

The remaining databases were used for less than .2 connect hours

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The Library Director commented that when he first considered introduction of online services to the College learning community, he anticipated that ERIC would be the most popular database at Nazareth. He has been surprised to see that although the use of ERIC consistently has been high, other DIALOG databases have been used quite extensively.

Student characteristics such as age and sex do not seem to be important variables related to viewtext use. In fact, in recent years freshmen have come from high schools where computer use is common, and they often are the most enthusiastic viewtext users. At the other end of the age spectrum, senior citizens in the summer Elderhostel Program also have been interested in computers. Fifty high school teachers and librarians had online experience as a result of the Library's RARE-sponsored program.

Outreach

The Library's outreach to faculty is extensive. New faculty, as they are hired, receive orientation to all library services including online searching. New students receive orientation to Library resources, and academic classes receive class-length presentations and demonstrations on searching topics of direct relevance to specific instructional areas.

The Library belongs to the Rochester Regional Research Library Council, one of the nine New York State Regional Research and Reference Library Councils. Through this affiliation, it has been able to share resources with libraries in the state and also to apply for the RARE grant.

The Library staff will do searches for people in the community on request, and, as mentioned previously, they have had extensive outreach to local high school students and faculty.

Future Goals and Objectives

The Library plans to expand its involvement with viewtext very substantially. During the 1984-1985 school year, as the Library begins the installation of its automated system, it plans to use the software holdings extracted from OCLC as one of the test files for such activities as materials circulation and online access to media holdings.

The Library will be reassessing its policy of charging for online searches, and perhaps it will offer all searching free or with a small flat fee, since current fees represent so small a fraction of costs. As reference service availability increases to include additional evening and weekend hours, the Library may have to provide more reference staff.

Most student use of online searching and computers results from the impetus provided by the school faculty. Therefore, the Library plans to expand its publicity efforts to the departments, with special emphasis on those that are not now encouraging student viewtext use.

New databases, both curriculum-centered and library-centered, will be evaluated for subscription as they become available, and demonstrations and training will be provided as they are needed. The Director is considering the purchase of some databases for local use on the Library's online system. At present, its medical journal titles are stored on the Medline database. Because of this, students who access Medline receive a list of citations that also identifies which items listed are held by the Lorette Wilmot Library. The Library hopes to make this type of information available for other online

database searches. Long-range plans also call for providing terminals at locations on campus to offer access to the Library's online public access catalog.

The Media Center plans to develop its microcomputer lab further and to provide increased in-service training in cooperation with the Academic Computing Liaison faculty member. The Media Center has been very influential up to now in assisting faculty to use computers and to integrate them into their teaching.

The Library belongs to the local consortium which will be meeting with the cable company to discuss the role of the libraries in the cable program, and the College may become involved in the local cable system as it evolves.

Lessons Learned

Although the Library targeted extensive publicity efforts at students to increase viewtext use, these efforts have been much less effective in increasing student use than have contacts with the faculty. Instructors are now recognized to be the key to the use of viewtext by students. The Library also has found that undergraduates make greater use of online searches in general and access a larger number of databases than do graduate students. It also found that installing telephone answering machines to accept reference requests facilitates the scheduling of online search appointments.

The use of online searching at Lorette Wilmot Library exceeded expectations even from the beginning, and the Library Director concluded that this was due to five significant factors:

1. The graduate education program is admirably suited to online searching; its part-time students are interested in obtaining a limited number of relevant citations in very little time.

2. The online program was well-introduced with quite a few demonstrations, plenty of specialized brochures and messages, and good word-of-mouth support.

3. Word-of-mouth support was possible because, as shown by the program evaluations, search results were excellent.

4. While there might not be as large a clientele in a small campus for online searching, there is more exchange of information than on larger campuses, and good search results quickly developed clientele.

5. The pricing policy is quite liberal; the cost of searching is heavily subsidized and, as a result, students are encouraged to try the system.

The Director also said that online searching has proved an excellent way to demonstrate the capabilities of technology through a very user-oriented activity that provided a printed product for patrons to take away and use.

Another important element in the increased use of online searching has been the expertise of the Online Coordinator, a very experienced search strategist with a strong commitment to patron service.

With respect to personnel requirements, the Library Director said they had learned that it is easy to underestimate the staff time required to get an online service "up and running." Computer literacy, once anticipated to be a concern with respect to students, is seeming less urgent because it is being addressed at other educational levels. However, the Library Director is wondering how long it will be before students begin to come to the school with their own computers and what effect that will have on staff requirements. Usage now is somewhat constrained by the availability of terminals in the Library, but the availability of less expensive equipment and increased faculty demands have already resulted in a plan for extensive expansion of campus computer equipment.

References

A number of publications describe the separate programs of study at Nazareth College, and the Undergraduate Catalog contains a description of the Library's facilities and services. The Library publishes a guide for patrons and semiannual and annual reports of its activities for the College administration.

An excellent description of the library's experience with online searching is contained in:

Matzek, R. and Smith, S. Online searching in a small college library -- the economics and the results. Online, 6(2), March 1982, 21-29.

Further information about the Lorette Wilmot Library can be obtained by contacting:

Richard Matzek, Library Director, (716) 586-2525, Ext. 450.

CASE STUDY REPORT 4

Name of Library:	Shasta County Public Schools Media Center
Address:	1644 Magnolia Street Redding, CA 96001
Persons Interviewed:	Jacquelyn Martin, Center Director, Librarian Dean Dennett, County Superintendent Gary Turnbaugh, Technician Charles Urbanowicz, Dean, Regional and Continuing Education, Chico State University
Date of Visit:	February 1, 1984

Library Characteristics

The Shasta County Public Schools Media Center is located on two floors of the County Schools office building in Redding, a small city in northern California. Preschool and career education programs and the County Schools' administrative offices share the County office facility, and the County Schools' planetarium adjoins the County office building.

A television production studio on the first floor of the Media Center houses the cable television drop and a small studio. Also on the first floor is the Teacher Educational Computer Center (TECC), which houses Apple and Commodore computers and software. On the second floor are a film library, the offices of the Director and other staff, the circulating book collection, and three classrooms used for broadcast of the Chico State University (CSU) Instructional Television For Students (ITFS) courses.

The County Schools Media Center serves approximately 23,000 elementary and high school students in 62 schools within 28 urban and rural school

districts. Most districts have only as few as one or two small schools, and there are only eight or nine certified school librarians in the County.

The County School Media Center offers six types of services to school districts in the County:

1. Audiovisual Services: The purchase and circulation of non-print instructional materials.

2. Library Services: The purchase and circulation of print materials, such as childrens books.

3. Professional Library Services: Circulation of professional instructional materials, either print or non-print.

4. Media Production Services: Facilities and equipment for the development of educational materials, and personnel that create or assist in the preparation of instructional materials.

5. Microcomputer Services: Purchase and circulation of microcomputer software, facilities, and equipment for teacher and student use of microcomputer software, and personnel that assist in the utilization of the microcomputer in an educational setting.

6. Audiovisual Equipment Repair Services: Personnel and facilities to maintain and repair audiovisual equipment.

In the 1982-83 school year the Media Center circulated 24,057 nonprint items, 356 of which were computer software packages, and 55,000 print materials, mostly childrens books.

Many school districts do not budget for most media services offered by the County. For example, although all districts contract for film deliveries, only one-half of the school districts in Shasta County contract for library book services. Yet, reductions in other library services in the community have resulted in the School Media Center being the only source of library materials for many County students. The passage of Proposition 13 has resulted in the reduction of services and hours in the County's public library and the closing of branch libraries in small communities. Branch libraries that are still in operation are not open on weekends.

The staff of the Media Center consist of a full-time Librarian, a full-time Secretary, a full-time Booking Clerk, an instructional materials center Clerk, an instructional materials Technician, a Driver, and a half-time Clerk. The Librarian who directs the Center holds a masters degree in library science and has had extensive experience in education and testing. She had been on the job full-time for only three weeks at the time of the site visit. The Technician assigned to the Center teaches television production and repairs equipment. He has had 17 years' experience in broadcast television and in industry, holds a degree from the National Radio Institute, and has attended technical schools run by Ampex, Panasonic, and Sony.

History of Viewtext

The Media Center began an extensive involvement with viewtext during the term of a previous County Schools Superintendent. At that time, when the County Schools received substantial Federal and local support for school media services, the then Media Center Director mounted an ambitious program involving instructional television and microcomputers. The Media Center staff was at one time as high as 32, including several CETA workers.

A television production facility that was equipped to transmit instructional programs to County Schools, an editing system, and portable cameras were purchased for the Media Center. Four Apple computers also were purchased, one to be used for software evaluation, and the three others to be circulated to schools in the County.

The Media Center's television production facility now is about eight years old. It was designed to receive instructional television programs, duplicate them on tape, and circulate them to schools. Lack of money in recent years has prevented the use of the system for that purpose, however, and at present

the Center does not have the resources needed even to tape for County Schools the programs that are available for rebroadcast from the Public Broadcasting System.

The cable franchise for the County provided for a cable drop in the Media Center television studio for school use during day hours and for public use during evening hours.

During the administration of a previous California governor, Teacher Education and Computer (TEC) Centers and satellite TEC Centers were opened throughout the state for the purpose of improving the teaching of math, science, and computing. A Redding Satellite TEC Center was set up in the Shasta County Schools' office building to serve the three counties of Shasta, Siskiyou, and Modoc. To make room for the TEC Center, the Media Center television facility was partitioned, and part of its space was given over to a computer lab. To equip the TEC Center, the Media Center's Apple computers were moved into the TEC Center. Later, Apple Computer donated an Apple IIe to each TEC Center in the state, and the TEC Center also purchased one Franklin and one Commodore 64 computer and an Epson Silent Printer. An instructor was hired to direct the TEC Center program and the Redding Satellite TEC Center began to offer computer training. Teachers responded enthusiastically. A needs analysis completed by teachers identified computer training as the area in which they felt they most needed training.

Courses taught in the TEC Center have included instruction for teachers in the educational use of microcomputers, electronic spread sheets, beginning and intermediate programming in Basic, programming in Logo, and word processing. A course for school administrators in the operation of computers also was provided.

Chico State University (CSU) began in 1975 to develop instructional television programs using Instructional Television Fixed Service (ITFS). (CSU calls its programs Instructional Television for Students.) CSU's assigned service area included 33,000 square miles (21 percent of the state), with a population of only 600,000 people (2.1 percent of the state's population). Exhibit 6 shows the CSU service area and the sites of the ITFS off-campus classes. ITFS enabled CSU to reach many students in its designated service area who are too far away to come to classes on the CSU campus.

The ITFS academic program, coordinated by the Continuing Education office at CSU, now serves students at 16 remote sites in northern California. Personnel in the CSU Instructional Media Center maintain the classroom hardware and the various mountain-top locations for the ITFS/Microwave equipment. For several years, CSU's ITFS programs have been available to students in the Redding, California, area at the Shasta County Schools Media Center.

Up to now the County Schools have had no access to online searching. However, the Superintendent said that the County Schools had just received a free subscription to Comp-U-Serve and would be getting modems in the very near future to enable them to use that online system. This technology was not in use at the time of the site visit.

Viewtext Applications

The County Schools Media Center and the TEC Center with which it is associated have the capability to make several types of viewtext accessible to schools in the County, but their capabilities are severely limited by a lack of funding.

Exhibit 6

Map Showing Sites of CSU Off-Campus Classes

Off-Campus Classes

Regional Learning Centers

1. YREKA: Yreka Union High School (Library) and home reception through Cal-Nor Cablevision.
2. WEED: College of the Siskiyous (Library) and home reception through Siskiyou Cable Company.
3. WEAVERVILLE: Trinity County Schools Office and home reception through Trinity Cable Company.
4. REDDING: Shasta County Schools Office (Media Center).
5. REDDING: Shasta College (not available 1983-84).
6. ANDERSON: Anderson High School Library.
7. RED BLUFF: Site not available 1983-84.
8. OROVILLE: Butte County Schools Office (not available 1983-84) and home reception through Viacom Cablevision.
9. COLUSA: Colusa Unified School District Office and home reception through Viacom Cablevision.
10. YUBA CITY/MARYSVILLE: Chico Regional Learning Center at Yuba College.
11. BEALE AIR FORCE BASE: (Training Center).
12. GRASS VALLEY: Grass Valley Group (Training Center).
13. ROSEVILLE: Hewlett Packard.
14. QUINCY: Feather River College.
15. SUSANVILLE: Lassen College.
16. HERLONG: Sierra Army Depot.

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The Center's major viewtext application at present is the reception of the ITFS courses from CSU. These are broadcast live to several sites in Northern California, including the Shasta County Media Center, via a two-way communication link, which allows students at the remote site to converse with the instructor.

CSU has a long tradition as a teacher training institution, dating back to its establishment as California's second state normal school in 1887, and most students attending ITFS courses at Shasta County Media Center are teachers. However, ITFS also offers full degree programs in social science, sociology, and several other areas as well as in education.

The Viacom Cable Company was required under its franchise to provide the Media Center with the capability to broadcast programs to County schools and to assist school and community groups to create and distribute original television programming. In addition to the required cable drop, Viacom also provided the Media Center with an additional camera and modulator to augment the Media Center's studio camera and switching equipment. With this new equipment, the Center is reassessing its role in video, but at present this new capability is being used only during the evening by students in a video production from nearby Shasta State College.

The Media Center loans computer software, videocassette players and recorders, and cameras; provides equipment for the TEC Center; and repairs equipment for school districts that contract for that service.

Organization and Management

Responsibility for viewtext is divided between the County Media Center and the TEC Center. Both are administered by the County Superintendent of Schools. The Media Center Director does not have control over the equipment

the Media Center has loaned to the TEC Center, but has the responsibility for lending computer software and providing a technician under contract to repair microcomputers. The TEC Center program at present is not well coordinated with the Media Center programs, which are County programs. Since the TEC Centers were mandated by the former Governor, they have been considered a state rather than a county program, and they have had more secure funding. However, a new Governor is now in office and if separate funding does not continue for TEC Centers, they may become less autonomous and more closely affiliated with Media Centers.

All television facilities are under the direction of the Media Center, whose technician provides instruction in the use of the television equipment in the Center and can maintain the equipment owned by schools in the County. The Media Center Director coordinates the use of classroom space for ITFS and maintains contact between the County Office and CSU.

There is no incentive provided to encourage the Media Center staff to become involved in viewtext. Proposition 13 has reduced funds for staff and programs, and some positions have been eliminated. As a result, the staff now are being required to take on increasingly greater responsibility without additional pay. The fact that the County Schools can still attract workers in spite of these conditions is due to the scarcity of work in Shasta County, whose economy depends on lumbering, a depressed industry in recent years.

State college budgets also suffered reductions under Proposition 13, but this year cuts were restored and salaries for teachers at CSU were increased by 10 percent. This is in contrast to the situation in Shasta County Schools, which have had to downgrade job classifications to conserve funds.

Patron Access to Viewtext

As described previously, access to media services, including viewtext, by teachers and students in Shasta County is determined by individual school district budget priorities. Apple Computer has donated microcomputers to schools, and in some districts there have been additional hardware purchases made, but school districts do not coordinate these purchases with the County Schools Office.

Teachers on their own initiative can register and take courses from CSU in the Media Center. They also can take courses in the TEC Center and borrow computer software from the Media Center. Course offerings are well publicized.

Cost Implications

A very serious problem for the Shasta County Schools has been the reduction in school funding levels since the passage of California's Proposition 13. This legislation restricted the amount of taxes that can be raised in the state overall and placed responsibility for disbursing funds to school districts at the state rather than the county level.

California schools are organized into districts, each with its own board of trustees. The Superintendent of Schools Office in each county is primarily a support unit, with administrative authority in a few categories. County superintendents formerly had the authority to levy taxes to support programs in their counties to meet perceived educational needs. Proposition 13 removed the ability of county superintendents to levy such taxes, and at the same time the state reduced its allocations to county superintendents. Money for schools goes to the county superintendents, who distribute it to school districts according to state allocations. The districts then contract for

county services. The state also mandates the provision of funding by school districts for some specific programs, for instance, programs for the handicapped. This funding includes expenses for services such as school busing for which the state has agreed to pay. In Shasta County, the state has not always made these funds available, however, which has strained district school budgets still further.

The end result for this Media Center of the changes in school funding statewide is that it has gone from being one of the most successful and growing media programs in the State of California to one that presently has a staff of only six and is in deficit by $75,000, with no way to recoup this money except to appeal to the broad public and industrial sponsors for assistance. With staff cutbacks, it is difficult to plan and carry out Media Center programs, and it is nearly impossible to mount extensive fund raising efforts. Moreover, in this community the economic recession has increased appeals to the few existing private donors.

At present, the financial situation of the Media Center is extremely precarious, and some facets of its program will have to be cut or phased out, unless additional money can be found. The Media Center is not alone in this situation. When Proposition 13 was passed, a ceiling was placed on local taxes. At that time the amount of taxes collected in Shasta County was low because of an ongoing recession in the forestry industry, the County's major economic base. Therefore, taxes were frozen at a low level of revenue. School costs have risen since Proposition 13 was passed, but as stated previously, the County is unable to levy additional taxes to maintain school programs. The planetarium, which is owned by the County, and two outdoor programs for students likewise are threatened. School districts and the County office prioritize all programs and services, including County Business

Office data processing, and then allocate the available funding to the highest priority items. Those activities given the lowest priority are eliminated. The school district teachers are allowed to develop priorities initially, but district school administrators and their board of education make the final funding decision. The decision is a difficult one in which administrators with inadequate budgets are faced with such choices as continuing to use County data processing services only by eliminating art; music; media services, such as the provision of books and films; etc., as less necessary to the school district's survival. No standards for school district instructional programs can be mandated by the County.

The California Media and Library Educators Association has recommended that school media centers get money from general school funds, but there is now no such base of support for them. In some sections of the state, special Federal funds are provided for media service to disadvantaged, migrant, and Indian children, but Shasta County is not a target area for these groups. Forest Reserve Funds also have been made available to area schools. However, this is a very unstable base of support, since it is based on the market for wood products, which fluctuates with the economy.

The state has provided special School Improvement Program (SIP) funds to some schools. To receive these funds, a school site council was required to carry out a needs assessment, develop a site plan, and identify instructional needs not previously dealt with at the site. It is difficult for school media centers to become eligible for these funds, first because library resources are not specifically identified as eligible in the SIP regulations; second, because the funds are for instructional objectives not previously identified; and third, because no new schools have entered the program since 1976. In

addition, SIPs are targeted for elementary schools, and not all eligible schools have taken advantage of SIPs to develop plans for supplemental programs.

Program Results

In the Shasta County Media Center, three types of classes have been made available that are produced by other educational units. Chico State broadcasts ITFS courses. Cable television courses are delivered in the Media Center to students of Shasta State College in Redding to qualify those who complete the course to produce and deliver programs over the community cable channel. The TEC Center offers instruction in microcomputers. The Media Center has supported and encouraged all of these cooperative efforts through contracts with district schools.

The County Schools Office also sponsored a five-day inservice fair for teachers that included for-credit workshops in many subjects. The Media Center was closely involved in coordinating this activity, which reached personnel in all school districts. Twenty microcomputer workshops were held in the 1982-83 school year, and 50 are proposed for 1983-84. Three such workshops were held at school sites in 1982-83, and 12 are proposed for 1983-84.

Outreach

The Media Center is a member of an eight-county audiovisual purchasing consortium. However, because of a lack of funds, Shasta County was only able to pay the dues and was unable to make any purchases in the 1982-83 school year.

Outreach to CSU is ongoing, and the CSU staff suggested that a visit to their classrooms to see the origination of the ITFS instruction be a part of the site visit. The Continuing Education staff displayed their taping and broadcast facilities and provided extensive information on their ITFS offerings.

The Media Center has notified the State Education Office of the availability of the Media Center staff to provide consultation on microcomputer applications and on the development of programs for administrative and instructional use.

The Media Center Director oversees some of the Northern California Writing Project activities, distributes publicity, and conducts workshops on children's literature. She also is developing a number of activities for district schools to encourage them to reassess the value of media services to their schools.

Future Goals and Objectives

The Center now has a deficit of $75,000, but it hopes to overcome this problem through several means. First, it must increase use of its services by increasing the number of districts contracting for Media services from their budgeted funds. The present County Schools Superintendent agreed with the Center Director that overall media services to district schools had suffered in the past 10 years from an overemphasis on television, to the exclusion of books and films. More than half of the districts, discouraged by the lack of emphasis on the traditional library services and the resulting decrease in quality of the library collection, cancelled their library contracts with the County Schools. The loss of district funds that resulted affected the Media Center's budget very adversely. All the services that the Media Center could

provide were decreased. It could purchase fewer items, and its ability to maintain nonprint materials and hardware also suffered. Now, however, the Superintendent hopes to redress the situation and develop a more cooperative attitude within the districts in the County towards contracting for media services. To accomplish this, he is developing several levels of service and may allow school districts to select the media service options that best meet their needs, for example, cooperative cataloging or purchasing and materials reviewing.

The Media Center Technician plans to expand the Center's program of audiovisual and computer repair services. The per hour fee charged can cover the expenses of these services.

Only when funding levels improve can the County begin to explore increased use of viewtext technologies, but the Superintendent and the Media Center Director are convinced that the productivity of several of their services could be improved through the integration of viewtext. Their goals for the future include improving the efficiency of their services and the productivity of their staff by entering data on their print and non-print collections into a computer database. They also plan eventually to use microcomputers to organize film bookings, automate the purchasing and cataloging of materials, and make their catalogs and bibliographies accessible online to school districts. The installation of modems in the schools will make this more feasible. They additionally are exploring the feasibility of using their access to the public cable channel both for communicating with County schools and for instructing school personnel in cable production and use.

A staff development needs assessment form is circulated to County School districts in the Spring of each year to identify inservice needs and interests of teachers, administrators, and aides. Computer courses offered in the TEC

Center are described, and instructors and times of presentation are identified. Twenty-one such courses were included in the Spring 1983 survey, and it is anticipated that these courses will continue to be offered using Media Center equipment and software.

Most students who have taken ITFS courses have been teachers, and this trend is expected to continue. The Shasta County Schools Office will continue to hold a five-day summer inservice fair to allow teachers to take short one-credit workshops in a number of subjects. Twenty-two computer courses were offered in 1983, including a computer science career awareness workshop that featured visits to area businesses. On the CSU campus, plans are ongoing to make the ITFS classrooms available for teleconferences. The school already participated in the ALA teleconference in June 1983.

Lessons Learned

The Superintendent and Media Center Director concurred in the opinion that the experience of Shasta County clearly shows that viewtext should be integrated into existing media services and not allowed to supplant them. When viewtext is first introduced in a school system in the form of television and computers, and purchases and planning for use are arranged, a great deal of analysis also should be carried out to determine what instructional outcomes are expected to be achieved with the new technologies. Careful projections also need to be made as to what the ongoing programs will require in terms of money and other resources.

In introducing viewtext originally, the Shasta County Media Center program neglected print and film collections and did not consult with school districts to identify instructional outcomes to be achieved nor plan for service delivery. The Media Center Director alienated the school districts by not

consulting with them, and they now are not willing to give priority to media services over other spending options. An ambitious program was developed that depended upon temporary CETA personnel and temporary funding sources, was not aligned with political realities in the state, and did not reflect the needs of the school districts on which the County Media Center depends for support. Better communication with school districts might also make possible the involvement of Media Centers in SIP funding.

The present staff concurred in the opinion that a county media director needs to be more than an excellent technician who is expert in the technology of television and computers. The post requires a professional library administrator knowledgeable about the book and journal collections and about the many types of programs in which school Media Centers traditionally have been involved. Where basic support, such as film inspection and repair, book delivery, overdue notices, etc., is neglected in favor of enlarging television and computer offerings, overall service deteriorates, and the balance in the media program is destroyed.

The County Superintendent said that the lack of standards for media services is allowing school districts to eliminate essential programs at a time when understanding and using information resources is becoming a key element in our economy. He said that the experience of Shasta County suggests a need for minimum standards for instruction developed and promulgated at a national level, perhaps through nationally-funded teacher training institutions. Otherwise, he said, the experience of Shasta County proves that educational excellence cannot be assured to all students. States and school districts now are able with impunity to cut funding for teaching staff and for essential programs and services.

Another lesson that the Center has learned is that collaboration with other agencies is critical. For example, the presentation of CSU courses in the Media Center attracts teachers and other adults to the Center's premises and also gives the Media Center staff access to the University's staff of experienced television and computer experts, its modern instructional television system, and its fully automated library.

References

Publications available from the Shasta County Media Center include a survey of County Media Services and a County Schools Office Survey Summary. The TEC Center also publishes a schedule of classes available.

CSU distributes brochures on the continuing education programs offered at Shasta County Media Center, and CSU's Dean of Continuing Education has published articles and delivered presentations on the CSU experience with ITFS. One such publication is:

Urbanowicz, C. F. ITFS. A paper presented to the 8th Annual Users Conference of the Public Satellite Consortium and Services by Satellite (SatServ). Washington, D.C.: October 19-21, 1983.

For additional information on Shasta County Media Center and its programs, contact:

Jacquelyn Martin, Center Director, (916) 244-4600.

For information on Chico State College ITFS, contact:

Charles F. Urbanowicz, Assistant Dean
Regional and Continuing Education, (916) 895-6105.

CASE STUDY REPORT 5

Name of Library:	Pikes Peak Regional Library District
Address:	20 North Cascade St. Colorado Springs, CO 80901
Persons Interviewed:	Kenneth Dowlin, Library District Director David Tharp, Assistant Director of Administration
Date:	February 3, 1984

Library Characteristics

Pikes Peak Regional Library District serves approximately 285,000 residents of El Paso County, Colorado. Under Colorado law, library districts are established where the citizens vote to have them, and the Pikes Peak District encompasses all of El Paso County except for two sections that had libraries prior to the formation of the District. The District encompasses an area of approximately 1,900 square miles, with the city of Colorado Springs containing 80 percent of the area's population.

Currently, the Library District operates facilities at nine sites, including the El Paso County Jail. The total square footage for public use of all the branches is only 49,833 square feet because several branches are very small. The Ute Pass Branch, for example, has only 414 square feet, and the Fountain Branch has only 779 square feet. The Penrose Branch Library has 32,000 square feet of public space.

The Penrose Branch is located on a busy thoroughfare in the center of the city next to a large shopping mall. The original library, a Carnegie building, is now the wing of the new Library which houses the collection of local history with some additional auditorium and office space. The Library

sits on a location in the city adjacent to the Carnegie building from which there is a fine view of Pikes Peak. It was partly for this reason that funds for land and the building were donated for a library at this site, with the understanding that the new Library building would not obscure the scenic view.

Pikes Peak Library District employs about 100 full-time staff members, 80 of whom work at the Penrose Library, which as the main library facility receives the greatest demand for service and also houses the District administrative offices. There are 35 degreed Librarians in the total district system, 11 of whom are Supervisors.

Exhibit 7 shows the District organization by department. Staffing has remained relatively constant since 1979. There are four professional Librarians on the Penrose Library Technical Services staff, one a full-time professional Cataloger. Before the District converted to MiniMARC, there were two Catalogers, but a MiniMARC Clerk replaced one Cataloger. In 1978-79, the Library had a number of CETA employees, and several former CETA workers have become salaried Library employees. In addition to full-time staff, the Library draws on the services of some part-time employees and a number of volunteers, particularly to explain the computerized catalog to patrons.

The book collection for the District is approximately 330,000 volumes, and circulation for 1983 was 1,037,670 items. The permanent home of all books and materials is the Penrose Library.

Items in branch libraries are on loan from the main Library. Transfers of items from one branch to another are accomplished with a bar code reader, and transfers are encouraged to rotate materials among District libraries. An item returned to a branch other than the one from which it was charged out is

Exhibit 7

PIKES PEAK LIBRARY DISTRICT ORGANIZATION

Department and Area	1978	1979	1980	1981	1982
Administration:					
Director	2.00	2.00	2.00	2.00	2.00
Financial	2.66	2.00	2.00	2.00	2.00
Personnel	1.25	2.00	1.90	1.00	.75
Public Information	2.66	2.66	2.66	3.58	3.00
Research & Development	1.00	1.00	1.25	2.00	2.00
Ridefinders	1.50	3.75	3.83	3.00	4.10
Systems Office	2.75	2.83	2.00	2.00	2.25
Sub-Total	13.82	16.24	15.64	15.58	16.10
Operations:					
Administration	1.00	1.00	1.00	1.00	1.00
Billing	2.33	3.08	3.25	2.66	2.00
Circulation	7.54	9.95	9.25	8.37	8.50
Communication	5.75	6.50	6.45	5.50	4.58
Facilities	2.00	2.25	3.91	4.25	3.33
Interlibrary	.45	1.83	.83	0.00	0.00
Security	1.87	2.58	2.50	2.29	3.00
Shelving	3.25	3.83	4.41	3.91	3.62
Sub-Total	24.19	31.02	31.60	27.98	26.03
Public Services:					
Administration	1.00	1.16	2.00	2.00	2.00
Childrens	2.08	3.50	3.00	3.00	2.91
Eastern Area	1.00	1.00	1.00	1.00	1.00
Eastern (EA)	0.00	0.00	.16	1.00	1.08
Eastern (EB)	3.00	3.00	4.75	6.66	7.00
Eastern (EP)	0.00	1.00	.91	0.00	0.00
Information & Reference	10.58	13.08	14.50	17.00	14.75
Local History	2.66	2.91	2.66	4.00	3.08
Outreach	5.08	7.00	10.08	6.00	5.58
Western Area	0.00	.83	1.00	1.00	1.00
Western (BMS)	1.00	1.00	1.00	1.00	1.00
Western (FB)	0.00	0.00	0.00	.08	.50
Western (OCCB)	.91	1.00	1.00	1.00	1.00
Western (UP)	.50	.50	.50	.50	.50
Sub-Total	27.81	35.98	42.56	44.24	41.40
Technical:					
Administration	1.00	1.41	2.00	2.08	2.00
Bibliographic	0.00	.58	1.00	1.00	1.00
Catalog	5.50	3.91	2.75	2.66	3.00
Collections	1.08	1.75	1.00	1.00	1.00
Interlibrary	1.00	1.00	1.83	2.00	2.00
Inventory	1.83	3.70	3.00	2.79	3.00
Order	1.00	2.58	3.00	2.33	2.00
Physical Prep	1.58	3.00	3.83	2.25	2.00
Sub-Total	12.99	17.93	18.41	16.11	16.00
TOTAL	78.81	101.17	108.21	103.91	99.53

kept at the branch to which it was returned unless it was flagged to be returned to the lending branch, as is sometimes the case with a leased or a popular book (Dowlin, 1984, p. 154).

Exhibit 8 shows the names, locations, and hours of all District libraries. The Penrose Branch is open from 10:00 a.m.-9:00 p.m., Mondays through Thursdays, and from 10:00 a.m.-6:00 p.m., Fridays and Saturdays. It is closed on Sundays and holidays. It is a popular facility. At 10:00 a.m., when the Library was about to open on the day of the site visit, there were 40 adults and two classes of elementary school students waiting to enter.

The population of Colorado Springs has been growing. In 1970 it was 275,972, and by June of 1983 it was 315,930, a growth of 34 percent. Steady growth is anticipated through the year 2000. Seventeen percent of the work force is employed by military installations, including NORAD, the Air Force Academy, and Ft. Carson. Unemployment is between 5 and 7 percent, compared with the national figure of 11 percent, probably due to the large military presence.

As the population has been growing, the economic base of the city also has been changing, from one that was almost entirely based on tourism and the military to one in which electronic manufacturing plants are playing a larger role. A growing number of companies are setting up plants within the Colorado Springs area, and the existence of these plants has strengthened the case for increased library services and for the building of a new library. The new industries in the area present problems for the Library in hiring technical personnel, since these industries offer salaries much greater than can be offered by the library system. As a result, the Library District has been suffering attrition of technical employees as better-salaried jobs in industry

Exhibit 8

Locations and Hours of Pikes Peak Library District Facilities

The Pikes Peak Library District

	mon	tues	wed	thurs	fri	sat
Penrose Library 20 N. Cascade 473-2080	10-9	10-9	10-9	10-9	10-6	10-6
Broadmarket Square 1755 S. 8th St. Suite D-1 633-6278	12-6	2-6	12-8	10-6	2-6	10-6
East Branch 1749 N. Academy 591-0091	10-8	11-8	2-6	10-8	2-6	10-5
Fountain Branch 501 N. Iowa Fountain 382-5347	closed	12-5	closed	12-2 3-8	closed	10-3
Monument Hill Branch Mine Shopping Ctr. Woodmoor 488-2370	closed	1-6	10-1	10-1 2-7	closed	9-1
Old Colorado City 2418 W. Pikes Peak 634-1698	12-8	2-6	10-6	2-6	2-6	10-6
Palmer Lake Branch 66 Lower Glenway Palmer Lake 481-2587	closed	10-12	2-6	closed	2-5	2-5
Ute Pass Branch 8010 Severy Cascade 684-9342	1-5	closed	1-8	10-12 1-5	closed	10-2

Schedules of PPLD Bookmobile routes are available at all library facilities or by calling 473-2080

Book Renewal..... 471-BOOK
Information 471-CALL
RideFinders 471-POOL
Deaf Teletype 471-1770

have become available. In Colorado Springs, for example, a librarian with a masters degree in library science can only expect to receive a salary of $13,000 a year.

History of Viewtext

The Director of the Pikes Peak Library District feels that the Penrose Library best approximates the model of the electronic library. In 1975, when the present Library Director came to Pikes Peak, the Board of Trustees already had budgeted to automate the circulation function of the Library. In fact, they selected this Director based on his previous experience with computers and cable television, and he had strong support from the Board of Trustees from the outset to automate library functions.

In 1975, the District budgeted $100,000 for an automated circulation system and took bids from vendors. After discussing their needs with vendors, however, the staff concluded that no existing system was appropriate for their Library, and an agreement was entered into by the Library and El Paso County to develop an automated system using the County's Digital Equipment Corporation (DEC) 10 system.

In August 1975, the first application, a transaction capture circulation system, was automated. An entry was loaded into a file only when a book was checked in or out. Cataloging on the system has been evolving since 1975, when Pikes Peak Library District first developed a machine-readable database and began its short inventory circulation record consisting of author, title, and call number, tied together with a bar code number and Library of Congress number for each item. Automated circulation and acquisition were implemented in 1976. By this time, the Library District had become one of the largest

users of time on the County's DEC 10. The County felt that the Library was using too much computer capacity and suggested that the Library purchase its own computer.

A new central computer system was installed at Penrose in 1976. It was used to automate cataloging, checkout, and other administrative support functions. The Library computer system, a PDP 11/70 mainframe computer, was named "Maggie's Place" to honor the retired head of processing at the Library, an employee of 26 years.

CETA workers entered records into the computer for 368,000 items, but there was at first no online subject index. However, after the Library began to use MiniMARC for cataloging in 1979, machine-readable records with subject headings were available for new entries. When the State of Colorado provided a Library Services Development Act state grant to set up a union catalog for state libraries, Pikes Peak District contributed its short records to the State catalog. It received in return 61,000 records with subject headings which could be entered into its online catalog.

To train staff on the Library system, there have been regular orientation sessions for employees that include orientation to the online files. Computer aides also have received special training, and help is offered to patrons at the terminals as needed. No formal training is given to users as a group, and the Library has found that home users seldom need assistance.

Viewtext Applications

Online files implemented on Maggie's Place now include circulation, cataloging, acquisition, vertical files, reserves, and serials as well as furniture and equipment inventory information. There also are available for

staff use an electronic message and mail system, word processing, and electronic publishing capability. In addition, budget, payroll, inventory, and accounting records are kept on the system.

Personnel in Reference and Technical Services Departments use an online inventory file that identifies books available in the District collection and indicates whether they are in or out of the Library. Included in the inventory file is the Air Force Academy Library's inventory of the collections of that facility. There also is an acquisition file that shows what is on order and what is available at all system libraries, and mail and message files can be used to convey this information online. When the acquisition section receives an item, they record the invoice number, check to see if it is in the Library, add whatever processing is necessary, and give the item to the MiniMARC technician to catalog. If original cataloging is needed, the book is given to the cataloger, who later provides catalog information to the MiniMARC technician to key into the system.

The Library District computer system allows patrons to access information in the online catalog on materials available in District libraries, and the system also provides information on local entertainment, community events, local and state political activities, and resources for human services problems. Exhibit 9 is a description of the Online Systems for patrons.

The community information online file identifies and describes courses available in the community and provides a calendar of current events. The Library generates its community activities files with help from such organizations as the United Way. A hard copy community calendar also is sold by the Library, but is not as current as the online information.

Exhibit 9

The Information Place—
The Pikes Peak Library District

The Pikes Peak Library District, nestled at the foot of Pikes Peak in the heart of the Old West, is anything but old fashioned. On the cutting edge of the New Wave of Information Access, PPLD sets a pace for library standards around the world.

Through innovative computer programs, affectionately called "Maggie's Place," PPLD has opened a new world of library service to its patrons. The first library in the world to develop Community Resource Files online, we offer easy and convenient access to these programs through public terminals in library facilities and telephone reference lines.

These programs include information about services and events in the local community. The CALL file offers referrals and information about free or inexpensive human services available in the region and includes the names and offices of locally-elected officials. If you are interested in what night the Symphony is playing, or the schedule of your favorite theatre troupe, CALENDAR includes cultural as well as other events, accessed by date or type of event.

Parents can access the DAY CARE file to learn specific information on particular child care facilities, such as which centers are set up for the handicapped. For those looking for other people who share their same interests, community clubs and organizations are listed in the CLUB file, along with telephone numbers and addresses of contacts. COURSES contains the schedules of adult education and recreation in the area, whether you are looking for a class in yoga or working on your master's degree.

One of the most used files is CARPOOL, a transportation-matching service. It was the first public computer program of its kind and has been adopted as a model by numerous rideshare agencies throughout the country. An online transportation brokerage system, RideFinders stores and displays routes and schedules of all available public transportation modes in the area, including the transit system, bike paths and special transportation services for the elderly and handicapped. CARPOOL can be accessed from strategically-placed public terminals and is complemented by a phone-in service for ride sharing.

The eventual replacement for the card catalog, the ONLINE CATALOG, is offered from public terminals located in the library. The ONLINE CATALOG contains records of the library's collection. Each entry includes when the book was last circulated, along with the present location, and can be accessed by title, author or subject.

PPLD was the first library in the world to offer access to the Community Resource Files and ONLINE CATALOG to any registered library card holder with a home computer system. From the comfort and convenience of their own homes, over 900 home computer users in the area link-up with the library's online information files.

A "DAY CARE" file on Maggie's Place gives patrons such information about local day care centers as which elementary school is nearest to each day care center, what type of child the day care center can handle, the credentials of center employees, and times the day care center is open. Two files, the Guidance Information System (GIS) file and the Colorado Career Information System (COCIS) also are available online to a limited group of users.

A carpool transportation information system available online through the "CARPOOL" file is funded through a grant from the United States Department of Transportation. This system matches riders travelling on the same routes and at the same time. The carpool system can match either for regular commuting or single rides, and 30 percent of those who participate do not own cars. In 1982, an expansion of the program was funded to incorporate all forms of ride sharing, and the system now includes schedules for the city transit system. Terminals for the carpool system are available in the military installations and in transit facilities. The transportation system does not use the Library's 11/70 computer, but has its own PDP 11/44. The Library contracts with the Pikes Peak Area Council of Governments which applies for the project's Federal grant, which the Library Board of Trustees oversees.

The Library employs work/study students to inventory its collections using portable computers to store the bar codes of books on the shelf. In the evening hours the bar code numbers are then checked against the numbers in the online catalog. At the end of three months, they delete from the online record and take from the catalog items that have not been identified as available at any site. The Library also can use this system to determine how often items circulate and to make decisions about weeding the collection and adding new copies of popular items. This process also produces statistical reports every month on the amount of use of reference and other books in the

collection. Thus, the Library can keep current records on the amount of use its collection is getting. Inter-library loan records kept online provide data on titles in demand and identify parts of the collection that are weak. These data also can be used to make purchasing decisions.

All of the Pike's Peak District branches have terminals connected to Maggie's Place, and there are over 1,000 home users who access the system through their own modems. Librarians conduct searches of the DIALOG and BRS databases for patrons. These commercial databases are used mainly by researchers and in-house staff.

The Library cooperated with United Cable Television, a Denver-based cable company in the area, by publishing a brochure on the potential of production facilities for programs developed by community residents. The Library itself, however, is not involved in these activities directly, since the local cable television company has expressed no interest in joint efforts. The Library looks for opportunities to receive satellite broadcasts, however, such as those on NASA space flights, for showing at the Library. Such broadcasts are not commercially feasible for network or cable television sponsors, but there is an audience for them at the Library. The Library Director feels that, overall, cable television regards itself as an entertainment medium.

Organization and Management

The Library District is governed by a Board of Trustees who are responsible to the public. They accept plans for budget increases for viewtext. They commissioned the Facilities Resource Plan to substantiate the need for expanded library resources for the District and, based on the

findings, requested that a ballot be held on a bond issue to raise additional money for a new branch library and a new computer system. (This bond issue passed.)

The nine branches of the Regional Library District are under the direction of a Library Director whose office is located in the Penrose Branch. He administers the Library with a team of managers, who oversee day-to-day Library operations. The Library Director is very much involved at present in the planning for the new automated system.

The management system at Pikes Peak is a Decision Support System (DSS) which uses the DEC report and query language, Datatrieve. Datatrieve provides the capability to store data and to manipulate it on demand to produce reports. The DSS encompasses four levels: individual item, detail data, total activity, and goal attainment. Individual item level provides information on individual books, orders, patrons, etc. Detail data level provides counts of activities for each location or organizational unit. Total activity level provides a total for each activity for the entire Library. Goal attainment level relates activities to goals. (See Dowlin, 1984, p. 60-63.)

The Pikes Peak District uses the Program Evaluation and Review Technique (PERT) for project planning. Using Maggie's Place word processing software, it can develop plans and make necessary modifications and updates online (Dowlin, p. 122).

Three Technicians each work 20 hours a week to keep the Maggie's Place community resource files updated. One Librarian is assigned to online files, publicizes materials available, and helps with project development.

Patron Access

Patrons can access the Library online files from a total of 96 terminals in the Penrose Branch Library, from 11 other branch libraries, and from 1,000 home computers (Dowlin, p. 185). Volunteers, often students or retirees, are recruited to assist patrons to use the online files. Patrons have access to information in two commercial databases, but librarians do the actual searching.

Cost Implications

The Penrose Library was donated to the Colorado Springs Community by the El Pomar Foundation and replaced an older library originally donated by the Carnegie Foundation. Thus, when the District recently went to the voters to ask for a bond issue to build a new branch library, the Library Director could point out that private donors had been so generous in the past that a city library in Colorado Springs had never before been built with public funds.

Community support for automation in the Library has been generous as well. The District was committed to online systems development before the present Director was hired, and it now has committed funds as well for upgrading the original Maggie's Place. The Colorado Springs area is one in which high technology companies furnish a major source of industrial wealth, and this makes it a particularly appropriate setting for an automated library facility. Many citizens own home computers; schools teach computer use; and networking among local military, public, and academic libraries is advantageous and is seen as conserving the resources of all these institutions.

The Library Director believes that patron charges for online or other services should be based on whether the charges will increase or decrease information access. Thus, the Library charges 50 cents to reserve a book,

believing that this covers its administrative costs and does not discourage the use of materials. However, it discontinued charging patrons to use Library coin-operated computers since the coin-operated computers were not used, and thus patron access to information was not improved by providing this service.

Although the amount of data handled by Library departments has increased in the period since Maggie's Place was installed, there has not been a corresponding increase in personnel costs. Viewtext has not so much reduced Library expenses as increased efficiency and made better use of professional expertise.

Commercial database charges are passed on to patrons, and a $2 service charge is added. Searches are done by Library personnel, not by patrons directly, and the cost of most searches is estimated by the staff to be from $13 to $30. Printouts of database searches cost patrons 10 cents a page. There is a $25 charge to print out an entire Library online file, e.g., DAY CARE. If patrons from another library use Pikes Peak facilities, that library must pay for the transaction, and vice versa.

Program Results

Overall, the use of viewtext by Pikes Peak Library District has resulted in improved productivity and patron service and in establishing the Library as the leading information resource in its community, according to the District Director. Specific results have included faster processing of new acquisitions and of materials returned to the Library, improved inventory control and ability to locate materials, a decrease in materials lost, better control over serials, reductions in technical processing staff accompanied by improved efficiency, and the provision of information useful to Library

patrons. Viewtext has allowed the Library to increase access to information in the community, and support for the Library was sufficiently strong to ensure the passage of a bond issue to improve and expand services and facilities.

The work flow has changed as a result of the computerizing of the system. The Library is focusing on developing technical service employees who understand the total process and can answer such questions as: "Did we get the book we ordered?" "Did we pay for it?" "If we did not get it, did we make a claim for it?" Viewtext has enabled the Library District to change 20 positions from clerical work to patron service.

The online system permits aquisitions to be made more quickly and allows more time for weeding the collection and for inventory. Formerly, the staff devoted a great deal of time to making sure the catalog was up-to-date. Now they can spend that time seeing that everything in the catalog is on the shelf in one of the District's branch locations.

The cataloging system in use has been helpful in standardizing cataloging, which the Director feels is beneficial to patrons. He estimates that 40 percent of the workforce of Colorado Springs moves every four years, because of the concentration of military and high technology employment in the area. He believes that such turnover makes it essential for libraries in the area to use national cataloging standards that will be familiar to patrons moving from other localities. The MiniMARC system facilitates this objective.

Twenty searches a month are carried out using DIALOG and BRS databases, and recently the staff were able to use these resources to research strategies used by other libraries to lobby for bond issues.

Outreach

Networking has become more important in recent years, opening lines of communication among local libraries and cutting down on the time required to get an item through interlibrary loan. Colorado's rural libraries now can share the materials of the University of Colorado system, the Pikes Peak District, and the Air Force Academy Library.

In the Library, there are printed instructional brochures posted at each terminal with additional copies that patrons can take away. These publications explain the files and the system use. Librarians speak to clubs and organizations, and they also distribute tip sheets on Library services. A Library friends group has been organized, and when the Library was trying to get the bond issue passed, the staff used radio and television intensively to lobby for that issue.

The Library's focus is on serving people who are not enrolled in any formal education. For this reason, they have no formal outreach to the young adult, although they do have programs to introduce preschoolers and their parents to the Library program, and they have bookmobiles with special programs for preschoolers. In the view of the Library Director, his is the only institution that responds to individual needs and provides only information that the patron requests.

Future Goals and Objectives

In the Director's view, the Library's major goal for the future is to continue providing publicly subsidized access to information and knowledge without duplicating any activities presently carried out by other organizations in the community. Tc meet this goal, the District intends to provide online files that will help patrons locate community resources and

thus facilitate the work of other community agencies. The Director feels that the provision of publicly subsidized information by libraries is mandated by political decisions and that through the political process the public determines what the extent of the subsidy will be.

The new system that is planned will be a great deal more convenient and faster. At present, the Library collection can be accessed through the inventory file, using either author or title, but only a part of the file can be accessed through subject entry. Title searches are only possible using an exact or a truncated title. Author searches are slow and are limited to a length of field no longer than 10. Therefore, an author with a long name could not at the same time have a first name input. The Anglo-American Cataloging Rules (AACR) II are used at Pikes Peak, and the staff also are attempting to establish an online authority file.

The new computer system is expected to provide better subject access. The minicomputer which will replace Maggie's Place had not been selected at the time of the site visit, nor had the Library decided what type of backup to use for the new system. It was considering the use of a microcomputer shelf list for this purpose. When the new system is installed, the District will close the card catalog and move to more professional positions two full-time people who file catalog cards.

Lessons Learned

The Library Director, based on his experience, advised libraries who are beginning to automate to start small, beginning with one application and then expanding. In his view, it also is critical that libraries install standardized components that can be interfaced with other equipment. For example, all terminals that Pikes Peak purchased had RS-232 ports and were

capable of transmitting ASCII codes. Therefore, they could be interfaced with the Library's other business equipment that uses serial interfaces and ASCII code. Thus, the Library uses Radio Shack Model 100 microcomputers with bar code scanners for bookmobile circulation. This equipment cost the Library only $2,000, compared with the costs for similar systems developed specifically for libraries, which, the Library Director said, start at $10,000. He said that computer terminal costs also are higher for library turnkey systems. Pikes Peak buys the least expensive terminals that will interface with the rest of its system. For instance, the Library recently purchased a dozen Televideo microcomputers, and it uses its 17 Radio Shack Model 100 microcomputers to take inventory and to use when the Maggie's Place system is down.

The Library does not plan to install touch screens because of their cost and because developing code for them is too expensive. In addition, the Director feels that literacy is important, and touch screens do not foster literacy.

References

The Library has an award-winning publicity department that publishes a number of brochures and booklets about Library services and collections.

Two recent publications that discuss the District and the viewtext applications used are:

Dowlin, K. E. The electronic library. NY: Neal-Schuman, 1984.

This publication discusses library viewtext applications in depth, presents the case for library involvement with these technologies, and offers a number of suggestions and conclusions based on the experience of the author, the present Pikes Peak Library District Director, with the Maggie's Place System.

Research and Consulting Group. The Pikes Peak Library District in the 1980s. Colorado Springs, CO: Pikes Peak Library District, June, 1983.

This resource plan, commissioned by the Library Board of Trustees, presents data on the Library District to support the need for expanded library facilities and to suggest appropriate ways to meet that need.

For additional information about Pikes Peak Library District, contact:

Nancy De Lury, Public Information Officer, (303) 473-2080.

CASE STUDY REPORT 6

Name of Library:	Minneapolis Public Library and Information Center
Address:	300 Nicollet Mall Minneapolis, MN 55401
Persons Interviewed:	Elizabeth Fugazzi, Chief of Central Library Lillian Wallis, Chief of Technical Services Susan M. Tertell, Assistant Head of Technology and Science Department Joseph Kimbrough, Library Director
Date:	February 6, 1984

Library Characteristics

This Library, located in the center of downtown Minneapolis, is the central library for the Minneapolis Public Library System, which also has 14 branches. Exhibit 10 shows locations and hours of operation for the system libraries.

The downtown Library houses 1.6 million books, 1,000 periodicals, 60 newspapers, 2,500 film titles, and 600,000 government documents as well as paperbacks, large print books, records, tapes, pictures, filmstrips, videocassettes, maps, microfilm, and microfiche. The Library is a member of a network of 99 public libraries in Minnesota which have a combined total of five million books. St. Paul has a separate public library system, as does neighboring Hennepin County.

The downtown Minneapolis Public Library is 100 years old and is a very strong research library, in contrast to its outlying branches and the libraries of nearby counties which are much more involved with recreational reading.

Exhibit 10

Locations and Hours of Operation of Minneapolis Public Library System Libraries

MINNEAPOLIS PUBLIC LIBRARIES				M	T	W	Th	F	Sa
DN	DOWNTOWN	300 Nicollet Mall (55401)	372-6500	9-9	9-9	9-9	9-9	9-5:30	9-5:30
Community Libraries									
EL	EAST LAKE	2727 E. Lake St. (06)	724-4561	1-9	10-5:30	10-5:30	1-9	10-5:30	10-5:30
FR	FRANKLIN	1314 E. Franklin Av. (04)	874-1667	1-9	10-5:30	10-5:30	1-9	10-5:30	Closed
HO	HOSMER	347 E. 36th St. (08)	824-4848	1-9	10-5:30	10-5:30	1-9	10-5:30	Closed
LH	LINDEN HILLS	2900 W. 43rd St. (10)	922-2600	1-9	10-5:30	10-5:30	1-9	10-5:30	10-5:30
NK	NOKOMIS	5100 34th Av. S. (17)	729-5989	1-9	10-5:30	10-5:30	1-9	10-5:30	10-5:30
NR	NORTH REGIONAL	1315 Lowry Av. N. (11)	522-3333	10-9	10-9	10-9	10-9	10-5:30	10-5:30
NE	NORTHEAST	2200 Central Av. N.E. (18)	789-1800	1-9	10-5:30	10-5:30	1-9	10-5:30	10-5:30
PB	PIERRE BOTTINEAU	1224 2nd St. N.E. (13)	379-2609	12-5	12-5	9-5:30	12-5	Closed	Closed
RO	ROOSEVELT	4026 28th Av. S. (06)	724-1298	1-9	10-5:30	10-5:30	1-9	10-5:30	Closed
SE	SOUTHEAST	1222 S.E. 4th St. (14)	372-6561	1-9	10-5:30	10-5:30	1-9	10-5:30	10-5:30
SU	SUMNER	611 Emerson Av. N. (11)	374-5642	1-9	10-5:30	10-5:30	1-9	10-5:30	Closed
WA	WALKER	2880 Hennepin Av. (08)	823-8688	1-9	10-5:30	10-5:30	1-9	10-5:30	10-5:30
WN	WASHBURN	5244 Lyndale Av. S. (19)	825-4863	10-9	10-9	10-9	10-9	10-5:30	10-5:30
WP	WEBBER PARK	4310 Webber Parkway (12)	522-3182	1-9	10-5:30	10-5:30	1-9	10-5:30	Closed

EVENTS

February 1984

Minneapolis Public Library & Information Center

Circulation for the downtown Library during December 1983 was 51,050 for books and materials and 2,845 for audiovisual materials, a drop in circulation of 4,760 from that during December of 1982. However, circulation in branch libraries has risen by 15 to 20 percent, mostly for recreational reading materials.

Minneapolis is divided into northern and southern sections. The average income in the southern section is about triple that in the northern section. The Central Library serves the southern section of the city, whose affluent population often prefers to own rather than borrow books, and the availability of retail book stores is having an impact on circulation. For example, B. Dalton Booksellers has quadrupled its bookselling space within four blocks of the Central Library and plans to open yet another bookstore nearby. To counteract the competition from bookstores, the Library now is purchasing large quantities of paperback and hardback bestsellers, which it does not process in any way but simply uses as a way of getting patrons into the building.

A new downtown user survey is being planned, but the previous survey, taken in 1976, showed that the downtown user was predominantly a white male, between 27 and 34 years of age, who used the Library 50 percent of the time for recreation and 50 percent for work. The staff anticipate that the new survey will reveal changes in this user population.

The Library staff consists of 180 people in the Nicollet Mall building, and 307 in the total system. Of these, 70 are professional librarians. Library hours of operation were previously cut, but recently have been restored. However, bookmobile service was eliminated with no objections from the public. In fact, the Library has been unable to find any community in the country to whom they could sell the bookmobile which they no longer use and

has concluded that this service is now too expensive for most communities. (Other library sites visited in the conduct of this research did not concur in this opinion, however.)

History of Viewtext

During the 1970s, the Library began a fee-based reference service in a cooperative effort with three other area libraries. This arrangement was terminated in 1975 but, since then, the Minneapolis Public Library has operated independently a service called "Information for Minneapolis" (INFORM). Access to computerized databases as a part of INFORM began in 1975 when the Library received funding from the National Science Foundation to pay for access to DIALOG in return for the Library's inclusion of that database as an INFORM reference tool. It was the only public library in the DIALOG study, and it offered online searching to patrons as a pilot service to collect usage data.

By 1976 the Library staff had concluded that the Minneapolis Public Library should develop its own search service, and it assigned $10,000 of its book budget for database searching. Initially, search charges were paid by patrons. However, since patrons who could not afford to pay could not get the service, this seemed to be unfair to users, and the policy was changed to allow patrons eight minutes of free search time and permit them to contract with the Library for additional research assistance at $40 an hour. Comparatively few non-INFORM searches have required more than eight minutes, however. The Library now has 20 searchers in all subject departments.

The Library originally used a Decwriter 2 terminal for online searching for the public, but recently it exchanged this terminal for an Apple IIe. It also installed a terminal for interlibrary loans and for OCLC in the downtown

Library. There are no terminals in branch libraries, but branch librarians may call the main Library and ask for online searches. They seldom do so, probably becuase they are unwilling to tie up their only telephone with these inquiries.

A computer literacy task force was formed at the Library to determine what should be provided in the way of microcomputer assistance to patrons. The decision was made that hardware should not be provided either for use in the library or for loan, but that software should be made available to assist patrons in selecting software for their own use. A microcomputer software advisory committee was formed in January 1984 to investigate the use of microcomputers in the Library. It has one advisor for each of the Library's six cost centers.

Every entry level public service professional librarian at Central is given online training. To facilitate this training, the Library offers a room to database vendors as a training site and in exchange, the vendors provide two free seats in each training course. This arrangement not only keeps Library personnel well trained in the commercial online systems, but also provides an excellent ongoing relationship with the database vendors.

Viewtext Applications

At present, the Library is involved with viewtext at several levels. It is a member of three separate networks within the state and has interlibrary loan arrangements with each. The Library uses a Texas Instruments terminal with a disc-based software program to dispatch and receive loans and can use OCLC for loan requests. It also is in the Minitex Network, which includes

both public and academic libraries throughout the State of Minnesota and in Iowa, Wisconsin, and North and South Dakota. Ninety percent of its interlibrary loan requests are filled through Minitex.

The Library also is in the MELSA Network, which services libraries in a seven-county area in the state. It both lends and borrows, but basically is a net lender in that network. Another network to which the Library belongs is the Office of Library Development Systems (OLDS) of the Minnesota Department of Education, which is used just by the State of Minnesota. All schools and academic and public libraries in the state belong to OLDS, and the Minneapolis Public Library is a lender, not a borrower, in this network.

Online search services also are provided through INFORM, a fee-based service which uses not only online searching, but all types of reference tools to provide answers to complex questions in a way that is most useful to patrons.

The Minneapolis Public Library is a patent depository, and the CASI database is provided by the Patent and Trademark Office. This is a database used by patent examiners and accessed through TYMNET. Local patent attorneys have made the patent collection available to the Library through a $125,000 grant for material collection. Only 36 libraries in the United States have a comparable collection of these patent records.

Organization and Management

The Minneapolis Public Library Director is responsible for the overall operation of the 15 libraries in the system, and the Chief of the Central Library has specific responsibility for the downtown Library. She also coordinates the activities of the Library within the various networks to which it belongs.

The INFORM service is managed as a special service within the Central Public Library which researches information for clients and initiates research efforts necessary to produce the materials needed in each search effort.

The Chief of Technical Services will be responsible for the new online circulation system. She is presently working with other departments to develop a request for proposals. The actual letting of the contract will be done by the city government. Software to be loaned to patrons is now the responsibility of the Science and Technology Department in the downtown Library.

Patron Access

The Library does not provide direct patron access to online searching, although any patron may request a librarian to conduct either a free limited search or a fee-based, longer, individually-designed search. The specifications of the online circulation system had not been developed at the time of the site visit.

Microcomputer software will soon be made available on loan to patrons, but the Library does not plan to furnish any hardware.

Cost Implications

The development of an online INFORM reference service originally was made possible by a grant from the National Science Foundation and by patron fees. However, this service is not subsidized at present by any outside sources. INFORM charges are set at a level that is expected to cover staff salaries, with any added costs, such as long distance and online charges, billed to the client. The annual budget for online searching is now about $16,000.

The Library had expected to achieve some saving through the use of OCLC, but the cost of terminals has used up any savings available. However, access

to the terminals has increased the efficiency of reference searches. In addition, librarians in charge of online searching can make recommendations for purchase when they discover an interest in materials that the Library does not have. Networking with the University Library, which is located nearby, has become more important, and cooperation in developing collections has resulted because of a desire to avoid the cost of duplicating expensive materials.

The Library is leasing all idle library space. It has a day care center in a low income area, in the basement of an old Carnegie Library. The space is leased to the community group that developed the Library's online day care database, but the Library does not keep any records on the use that is made of that database.

Program Results

As the Library has become automated, it has been able to carry out its work with fewer personnel. It has reduced its catalogers from four to two since beginning to use OCLC. It is now cataloging more titles and has included the Music Department and 16mm films in its cataloging, so it is doing much more work with half as many people. However, the reduction of staff as a result of automation is not necessarily a measure of productivity. In some years the city government opts to have staff reductions, whereas in other years it prefers that staff not be reduced, but that people be assigned to other departments if their jobs are abolished.

During 1982, INFORM used online searching in 479 projects and accessed a total of 108 different databases (Tertell, 1983, p. 14). On the whole, online service users are the regular users of the Library since the librarians use whatever method is necessary to find the information a patron needs. INFORM's

online search service is used mostly by businesses. Individuals who ask for an online search are likely to be high school, university, or vocational school students who already know the capability of the databases.

The Library can use MetroNet for electronic mail. However, branches have only one telephone line at present, and it is not easy to reach them by telephone. It would be inconvenient for them to tie up their telephone lines with online searching.

Since, in general, Library policy is not to lay off workers, but rather to eliminate jobs through attrition, it is not expected that the online circulation system to be installed will save a large amount of money, except for savings in postage. At present, the Library mails cards to patrons to be sure that the addresses written on library card applications are accurate. The new system will allow the Library to check new applications against delinquent files so that it can charge fines and identify persons who are applying for a new card to avoid paying outstanding dues owed on existing cards.

Outreach

The Library publishes materials describing its programs, its hours of operation, and its Friend's Group for distribution to patrons. It also publishes a calendar of events in hard copy for the community. However, it makes no mention in its publicity materials of its online searching capability, and it does not wish to have the public think of this as a service that is separate from the ordinary search for information through materials in print. Its philosophy is that online searching is simply sometimes the most efficient way to access needed information. However, publications on INFORM have been developed by the Library for presentations at library association meetings.

Library programs often are reported in the Metro Monitor, a monthly tabloid published by the Metropolitian Council, and in neighborhood newspapers. Metropolitan Minneapolis has a number of such newspapers available free in the Library lobby.

Future Goals and Objectives

The Library recently had a goal-setting session in which staff determined that the top priority among 10 important objectives for the Library is a new analysis of the community that they serve.

Another major goal is the development in the next five years of an online circulation system. A contract is to be signed by October of 1984 for a turnkey online system which will have been used in at least one or preferably two other similar libraries. Funding for this system is to come from the city budget. There has been a 10-year wait to acquire the necessary funds, because there were so many other competing needs for capital budget funds. The Request for Proposal for this contract is to be issued in June of 1984.

Among the capabilities that the Library wants in the system are a fast response time and the capacity to handle its collection in full MARC format, so that it eventually can develop an online catalog. The Technical Services Director feels that those libraries that have short title records have made a mistake and will have to redo their catalogs. The Minneapolis Public Library needs a system that will interface with OCLC. It would like to take its records directly from the full records it now has on its Comcard. The MELSA Network also wants the new system to be able to use the CODABAR that is used by CLSI, and would also like to have two dial-up outside ports.

The determination as to which system to select will be made by the Chief of Technical Services and the Acquisitions, Data Processing, and Circulation

Departments. The Library's five-year plan calls for two years of setting up the system and three years of converting the collection information in all the system libraries to the new format.

Altogether, the Library expects the circulation system to include 75 separate terminals. Terminals for the system will be located at all stations which now have Recordax. Busy places will have one or possibly two terminals that can be used to determine whether or not the Library owns a title, and to determine its present location. It plans to have terminals in the Cataloging and Purchasing Departments. It also will need a terminal to read in labels, one for book selection and one for shelving, so that books returned to the Library as interlibrary loan items can go directly to branches or other libraries to which they belong.

There has been a demand from patrons for computer software for loan, and at the present time two librarians in the Technology and Science Department are planning the acquisition of such software. The Library has developed a proposal and has an initial budget of $3000 to acquire and package software for loan. It anticipates acquiring software for the IBM Personal Computer, the Apple, and the Commodore 64 in order to have software for systems in the high, medium, and low ends of the income range, respectively.

Problems the Library sees in lending software are preventing damage to the discs and protecting copyrighted materials. It also expects circulation and cataloging of software to present difficulites. The Library will lend the software on a special permit and package it in plastic bags. However, it is concerned that there is no way to know if a disc is returned damaged. The Library plans to keep the software in one department, Technology and Science, until patron response can be assessed. However, it is not sure whether to

continue to keep all software in this department, since some items may be appropriate to the children's, business, or other collections.

INFORM patrons often call from their home or business, and the Library mails bills to them. Each bill has to be typed and mailed individually, which is a very expensive process. The Library staff hope to be able to handle billing more efficiently as their involvement with computers becomes more extensive. Some libraries in the United States have made the CASI patent database available to the general public, and the Minnesota Public Library intends to do the same.

Lessons Learned

Businesses are the main users of INFORM services, and they use the service to complement in-house Library services. The INFORM staff have found that businesses use Library services for any of several reasons. They may be operating under a deadline that necessitates seeking extra reference staff. This often is true, even in companies that have libraries, when a question falls outside the special area of the firm's collection. Many companies do not have access to online databases. Also, a Library staff member often can make confidential inquiries without identifying the requestor. Confidentiality of client identity and information requests are always guaranteed.

Trust between clients and searchers is essential. Clients must have confidence that searchers will not undertake research for which they are unqualified and will let them know when information is unavailable or another source would be more appropriate.

Cooperation among libraries is essential to providing good fee-based reference service. Only by cooperation can libraries use electronic messages

to request materials on loan, and only then if libraries are using compatible equipment that will transmit and receive requests.

The Library Chief explained that because of the Central Library's commitment to research, it had experienced some difficulties in its collaborative arrangements with other libraries in the MELSA Network. She said she would expect that such problems might occur whenever the priorities of individual libraries conflicted with those of the majority of members of any network. She gave the following examples of instances where the Minneapolis Library's decisions were in conflict with those of other network members.

MELSA is a network of 99 libraries, and three years ago the network agreed to broker online service to its participating libraries. A problem has been that the needs of the Minneapolis Public Library have been different than those of the other libraries in MELSA. For example, the NEXIS database vendor was not acceptable to MELSA, since NEXIS did not want patrons to know the source of the information provided by NEXIS. Other libraries in MELSA agreed to drop NEXIS rather than refuse to let patrons know their information source. However, the Minneapolis Public Library could not do so, since its patrons have a critical need for information in the NEXIS database. In another instance, the Systems Development Corporation decided to levy an annual users fee of $750 a year for the MELSA network. Other libraries voted not to pay this fee, but the Minneapolis Public Library, as a patent deposit library, needed access to SDC's database on patents. MELSA was forced to pay the fee, even though other member libraries did not feel that the charge was fair.

An Apple II^{e} was provided by the MELSA Network to its member libraries, and they use these microcomputers for online searching. The volume of online searching is too great to use the Apple for any other applications, and the Minneapolis Public Library has found the Apple a poor choice for searching. However, the MELSA Network required that Apples be used so that it would be able to send discs to each member library.

Originally, the Library expected to acquire and lend only database management, word processing, and preschool program software so that the Library would not be duplicating what the schools were offering. It has since concluded, however, that it would be better to concentrate on skill games because of the difficulties inherent in lending more sophisticated software programs.

Asked what lessons the Library has learned overall from its involvement to date with viewtext, the Chief said that pace setters in this technology get a lot of advantage and that the Library had been asked to speak to a number of groups and had made useful contacts through its early involvement with the DIALOG system. She said that it takes time to integrate any new system and that the Library was fortunate both in having had the opportunity to pass on some of the start-up costs of the system and in dealing at first with users who had some knowledge of the system. She also said that online services should be integrated with what already exists, not promoted as a replacement for traditional information resources, but as a supplement.

References

The Minnesota Public Library and Information Center publishes a number of brochures describing its services to patrons, and it compiles statistics monthly and annually on all system libraries.

A good description of INFORM services is contained in:

Tertell, S.M. "INFORM." A speech to the Midwest Federation of Library Associations, November 2, 1983.

(Ms. Tertell is a former INFORM librarian and currently works in the Science and Technology Department of the Minneapolis Library.)

For additional information on the Library, contact:

Elizabeth Fugazzi, Chief of Central Library, (612) 372-6607.

CASE STUDY REPORT 7

Name of Library: University Library, University of Illinois

Address: 1408 West Gregory Drive
Urbana, IL 61801

Persons Interviewed: Barton Clark, Acting Director
of Departmental Library Services
Kurt Murphy, Assistant to the
Director of the Online Catalog Project
Martha Beshers, Acting Mathematics Librarian
Bill Mishcho, Engineering Librarian
Bill Potter, Assistant Director,
Acquisitions and Central Circulation

Date Visited: February 8, 1984

Library Characteristics

This Library serves the University of Illinois at Urbana-Champagne, a state university located in rural Illinois. General administrative offices for the University are located at its city campus in Chicago, as is the mainframe computer used by the Library.

The Urbana-Champagne campus is popular among undergraduates in Illinois and nearby states. It receives 13,000 applications yearly for its freshman class, of which it accepts only between 8,000 and 9,000 in order to limit the size of the student body to no more than 35,000.

The Library was established in 1868 by the University's first Regent, with a collection of 644 books and government pamphlets purchased with a state appropriation of $1,000. Today, it is the fifth largest library in the United States and contains more than 10 million items, including 6,411,000 books, 93,000 serial titles, and 4,000,000 items in other formats, including microfiche, microfilm, videotapes, audiotapes, and slides. It has

comprehensive collections in all of the major fields of study offered by the University and houses a number of special collections, including a depository library of government documents.

Only three libraries in the United States have more extensive research collections than this Library, which is the second heaviest lender among the Association of Research Libraries, an organization of 223 major research libraries in this country and Canada. The Library circulates a total of over 2,000,000 items a year and contributes 500 monographs a month to OCLC.

The Library's holdings are housed in the Main Library, the Undergraduate Library, and 38 departmental libraries, some of which are in the Main Library building, while others are in departmental buildings. The Main Library contains a card catalog of all titles in the University Library. Departmental libraries also maintain card catalogs of their own collections. Access to the central bookstacks is open to faculty, graduate students, and special permit holders.

The University historically has been committed to providing decentralized library service. The Acting Director of Departmental Library Services attributed this to two factors. The University Library has had only three permanent directors over the nearly 100 years of its history, and this has made it less susceptible to the move to centralization which was popular in the library community at various periods, such as the 1960s. Furthermore, departmental libraries are more usual in science, a major area of emphasis at this university.

The Library also is the largest library in the world using the Dewey Decimal System. This System has been traditionally preferred, in part because of the University's close relationship with Melvil Dewey, who dedicated the first campus library building.

The total Library staff on this campus includes 119 professional librarians, 295 support personnel, and 118 student workers. Most units of the Library, including the Main Circulation Desk, Information Desk, Reference Desk, and the Undergraduate libraries, have extensive evening and weekend service as well as service available during normal class hours.

There is a very positive attitude towards the Library on the campus. It is recognized as an institution that provides access to extensive resources in all departmental areas, even though the campus itself is located in an area quite isolated from other universities or urban centers. As this report will show, the use of viewtext technologies greatly improves the Library's capability to access remote resources.

History of Viewtext

The University of Illinois is a hospitable environment for library viewtext applications. It has been the focus of other similar innovative programs in recent years. For example, the Programmed Logic for Automatic Teaching Operations (PLATO) system developed at the University in the 1960s has become one of the most widely-used online systems in the world for delivering time-shared, computer-assisted instruction.

The University Library at Urbana-Champagne has had extensive involvement with viewtext over a period of 10 years and is presently expanding this involvement substantially. The present discussion focuses on three different uses of viewtext in this Library system: the overall integration of viewtext throughout the Library system, the development of special online bibiliographic files by the Mathematics Departmental Library for use by

scholars throughout the United States, and the development by the Engineering Departmental Library of special software to facilitate access to commercial databases, especially in engineering and science.

Overall Integration of Viewtext

The University made a commitment to automate its libraries in 1976, when the present Library Director was appointed. An automated records unit was created to allow the Library to adopt rapid cataloging techniques through the use of OCLC, which had been available since 1974, but previously had been infrequently used. An automated records maintenance unit responsible for the maintenance of an online system was established at that time, and committees were set up to deal with training and cataloging policies.

The Library has been a very traditional one, with a major commitment to collection. At the outset, there was staff resistance to wider use of OCLC. Catalogers complained that OCLC cataloging could not be as precise as manual cataloging and that reliance on OCLC would force the Library to accept a higher error rate. However, all staff now agree that using OCLC allowed the Library to get rid of its cataloging backlogs, and most of the staff have adjusted to the OCLC standards.

In 1978, the Library received a Higher Education Act Title III grant of $333,000 administered through the Illinois State Library to develop an online database of materials available in Illinois' publicly-sponsored libraries. Title III money ordinarily is available only to public libraries, but in this instance it was awarded to support a university-based effort that would benefit public libraries. A Library Computer System (LCS) was developed under this grant that permits the sharing of resources of all public libraries in Illinois that use OCLC. Because of the grant requirements, the system that

the University developed, modeled after a similar system in use at Ohio State University, provides terminals in the headquarters of the 18 public library systems in the State of Illinois.

When LCS was first installed in 1978, it was only a circulation system with information on 80 percent of the records in the Library catalog at that time. Later, LCS files were expanded to include subject searching for all items cataloged after 1974, when the Library joined OCLC. Terminals at first were located only at the Circulation Desk, but later IBM 3100 public terminals were made available, first in the main information area and later in locations throughout the University libraries.

LCS evolved from a system serving three Illinois college campuses in 1979 to an online system that makes accessible through one database the resources of 25 colleges and universities in Illinois. Print and non-print materials in the collection have been integrated into LCS files which also show materials on order. The system developed is unique in the nation in providing cooperative resource sharing through access to bibliographic information on the collections of public and private institutions and regional public library systems. In late 1978 the University Library purchased software for an online catalog and began modifying its catalog to link it to its LCS.

The IBM Personal Computer (PC) was selected as the microcomputer for Library use because this machine has two communication ports. One of these can be linked to internal online files and one to an outside database to permit librarians to search both LCS and commercial databases from the same terminal. The PC has several other features that made it an appropriate choice for the Library. The Acquisitions unit was pleased with Easywriter II word processing software for the PC, and the Library staff preferred the software communication package which is built into the PC's version of BASIC

and is easy to customize. They also anticipated that vendor support for the PC would be very good because the local computer center uses IBM hardware. The staff expect PCs in use in public areas to require minimum maintenance, however, since they are not connected to disc drives.

The Mathematics Library

In 1981, the Mathematics Departmental Library received a two-year grant under Title II-C of the Higher Education Act to establish a document delivery and reference system for mathematics at the same time as the American Mathematical Society made available its online database, MATHFILE. The 2,000 monograph titles reviewed in Mathematical Reviews which the University Library did not already own were to be acquired and added to the University Library's existing mathematics holdings of 35,000 monograph and 1,300 serial titles. Data from all titles were then to be converted into machine-readable form and entered into the OCLC database using Anglo-American Cataloging Rules (AACR)-II and the latest Dewey classification numbers.

This grant also offered the University the opportunity to make the costly revisions in its mathematics collection records necessitated by recent changes in the Dewey Decimal System classification numbers for mathematics.

The Engineering Library

Online charges for the use of commercial databases in science and engineering are high, and the cost of searching, as well as the success achieved, depends on the searcher's ability to understand the protocols used for each database. To make searching more efficient and less costly, this

Library began the development of "Search Helper" software, an interface program on a disc that facilitates access to information in BRS, DIALOG, and OCLC.

Viewtext Applications

The University is presently using a number of viewtext applications throughout the campus generally, as well as specific applications in individual departmental libraries. Those applications that were observed in the course of the site visit are described below.

The Library Computer System (LCS)

This online circulation system, which integrates information on the holdings of colleges and universities in Illinois, is available to patrons at terminals in all University libraries at Urbana-Champagne. A brief guide is posted at library terminals which indicates that a patron can retrieve information either by author, title, subject, specific call number, or subject area call number. LCS also allows a patron to determine which, if any, of the LCS libraries owns a specific item and the present circulation status of the item. Using this information, the patron can reserve the item online and borrow it directly at the holding library or request the campus library to order it through interlibrary loan. The LCS is based on the shelflist of the participating libraries. Therefore, when a patron checks out a book, it immediately shows up as being on loan.

There are 200 LCS terminals on the University campus. A special interface that provides online prompts is available on some terminals to patrons who need help in using the system. This is an optional feature, and as patrons become experienced searchers, they bypass this interface and use LCS directly,

which provides a faster search. LCS has several drawbacks. It is primarily a circulation system that allows very limited subject access. It also is not an intelligent system, and although it is fast, it provides only abbreviated bibliographic records and does not have the capabilities of many newer online systems that can read bar codes.

The Full Bibliographic Retrieval System

To enlarge online subject access, the University Library began the development of a second online system called Full Bibliographic Retrieval (FBR). FBR supplements the information available online through LCS, providing full bibliographic records from OCLC going back to 1974. Using FBR, a patron can access a brief record that displays 10 items on a given subject and can then request full records on items of interest.

A search of the FBR database involves giving three search instructions: command, key ID, and search key. For example, a command might be "FIND," a key ID "SUBJECT," and a search key "BIRDS," indicating that a user is requesting a search of FBR to find in its files and display information on the subject of birds. FBR can be searched for books only or for serials only and by both personal and corporate authors or subjects. Subject searches also can be geographic or topical and series can be searched for by personal or corporate names or titles. FBR also can be used for keyword searching.

When FBR is combined with LCS, patrons will be able to access bibliographic information by subject, locate items, and determine their location in the LCS libraries and their availability.

The Online Questionnaire

The Library presently provides delivery by campus mail of items ordered online by patrons who identify materials using LCS. This service has resulted in the development of a large group of users who may never visit the Library. To communicate with these users, Departmental Library Services, with the help of the University's survey research group, has developed a questionnaire to be distributed online that will allow these "unseen" users to describe their experience and needs. The online questionnaire already has been pretested in a paper format and will be pretested online in the Spring of 1984.

Administrative Uses of Viewtext

General Services and the departmental libraries are using IBM PCs for administrative work. Some departmental libraries also have PCs that their own departments paid for and use them not only for online searching but also for budgeting and word processing.

Personnel files have been developed for all libraries. Since librarians have full faculty status, they must publish regularly and serve on faculty committees. The computerized personnel files make it easy to keep a record of publications, committee work, and research in progress. It will be possible to show, for example, whether a poor year's work is an exception for a librarian or reflects continued poor performance over a longer period. Salary information also is in this database, separately for male and female personnel, so that it is a simple matter to check on whether equal opportunity is being achieved in terms of pay and rank.

The Mathematics Library Project

The Mathematics Departmental Library is completing the work on its Department of Education Title II-C grant to establish a database to provide online access to bibliographic information on every monograph ever reviewed by Math Reviews and to accession all the items on the database. By February 1984, it had collected all but about 1,950 items which either were out of print or were translations. All items accessioned had been entered into OCLC and into the University's FBR online system.

Procedures are being developed to integrate this mathematics information with the Library's interlibrary loan, research, and reference service and to publicize the availability of this new service to mathematical researchers. The completion of this project will provide nationwide access to a major research collection in mathematics by means of standardized, uniform cataloging in OCLC, the country's largest automated database.

Staff for the project originally included a full-time Librarian for monographs, a half-time Librarian for serials, two full-time Clerks, and 10 part-time students. The project was nearing completion in February 1984 and required only the part-time efforts of a Librarian and two students who were working on the accession of the remaining materials.

The Engineering Department Library

Exhibit 11 outlines online search services available in this Library. The Library is now using two microcomputers and expects to receive an additional IBM X-T through a University grant. As mentioned previously, the Librarian has developed an interface to simplify access to the databases needed by engineering students. Only the staff are using this interface at present, but when BRS and DIALOG become available on the University's public terminals,

Exhibit 11

University of Illinois at Urbana-Champaign

UNIVERSITY LIBRARY

1408 West Gregory Drive
Urbana, Illinois 61801
February 24, 1982

COMPUTERIZED LITERATURE SEARCHING AND INFORMATION RETRIEVAL IN THE ENGINEERING LIBRARY

The Engineering Library now provides online searching of bibliographic and numerical databases. The library is able to access machine-stored forms of the primary Abstracting and Indexing (A & I) services and other databases. These databases can be searched in an online mode to produce customized bibliographies of citations to journal articles, conference papers, books, patents, dissertations, government reports, and standards/ specifications. The A & I services available for online searching include:

Engineering Index;
Engineering Meetings/Conferences;
Metals Abstracts;
Computer and Control Abstracts;
Microcomputer Index;
Electrical and Electronics Abstracts;
Physics Abstracts;
Water Resources Abstracts;
Chemical Abstracts;
Science Citation Index;
Government Reports Index (includes NASA and DOE documents).

These literature searches can be used for:

pre-proposal literature reviews;
thesis/dissertation literature reviews;
current awareness services;
research for class papers;
verification of problem citations;
address and biographical information;
handbook, numerical, and statistical data.

Searches are done through commercial database vendors and can be charged to university accounts. The average cost of a search is approximately $25. Contact Bill Mischo in the Engineering Library (3-7497) for information. Classroom presentations and seminar demonstrations can be arranged.

Search Helper software can also be installed. With this software, a user can develop a search strategy before going online and before paying connect charges and can specify beforehand what elements of the search are to be downloaded to the printer, thus eliminating irrelevant data generated in the course of the search. A software module also is available to explain the use of the Search Helper.

Organization and Management of Viewtext

At present, the management of viewtext applications is decentralized to the extent possible. The University Librarian is committed to improving service through automation and decentralized service and has been a driving force in encouraging viewtext use. He believes that a library must be organized around its files, but that automation makes it possible to get away from centralized files and decentralize service to better serve the patron. With online authority and catalog files, it is no longer necessary to have library staff working in any particular place.

The University Librarian had developed and implemented LCS when he was the Ohio State University Librarian, and was able to provide guidance in the technical aspects of the Urbana-Champagne campus LCS project. However, the specifications for the Illinois system and the selection of vendors were carried out by other staff members.

LCS has a statewide committee and is intended to serve all units of public higher education in Illinois. New schools are added continually, and most four-year colleges in the state also are now on LCS, including the private colleges in the Chicago Consortium of Schools.

The Acting Director of Departmental Library Services oversees the operations of the departmental libraries and the use of LCS by patrons. His staff developed and will administer and evaluate the online user survey. He said that LCS requires for its maintenance one full-time Librarian, a graduate assistant, a paraprofessional, and clerical support staff. FBR development is being completed by a systems Librarian hired for this project, who was scheduled to leave the University at the close of the project development phase in March, when the system became operational.

The Mathematics Library staff and the interlibrary loan service will implement the integration of the Title II-C project as a part of ongoing library services when the remaining project materials have been acquired.

In the Engineering Library, work on the "Search Helper" software is carried on by the Librarian, an experienced library systems professional who has published in the area of library automation and formerly was on the staff of OCLC. He does not work solely on software development, but uses online services to provide reference service to patrons and sees the development of user interfaces as the key to improved service.

The Assistant Director for Acquisitions and Central Circulation is responsible for viewtext use in those two departments.

Patron Access to Viewtext

As has been pointed out previously, the University Library is committed to a policy of making all of its own bibliographic records and those of other LCS libraries accessible to patrons.

The Library staff are constantly improving access by patrons both to LCS and to DIALOG and BRS through the placement of terminals in all campus libraries and the development of special software that simplifies database

access and prompts responses that simplify the retrieval of information. At present, patrons can order materials either online or by telephone for delivery to any campus address and can search LCS from any terminal using a valid University student ID card number. A title being searched for will first be checked in the University of Illinois Urbana-Champagne Library, then in each of the other LCS libraries until a copy is found.

Program Results

At present, all outstanding acquisition orders are on LCS, brief cataloging records for items in remote storage areas can be retrieved, and a serials check-in system is being developed. Libraries in a network of 23 academic libraries in Illinois have easy access to information on their combined holdings. Eighteen public libraries in Illinois have LCS terminals, and the system is well accepted on the Urbana-Champagne campus. The patron interface developed for LCS has proved very successful in facilitating use.

Data from the online user survey will be available in the Spring of 1984 and will be presented at the ALA convention in August 1984.

Statistics will be collected on the extent of use of the math collection in the Mathematics Departmental Library, and some data should be available by Spring of 1985.

The Search Helper software package, developed to improve the search capabilities of Engineering Department librarians, is being used by Library staff to improve access and efficient use of BRS and DIALOG databases for searches.

Cost Implications

Traditionally, this Library has been generously funded. Recently, for example, the University provided $400,000 for books to allow the Main Library's collection to expand into new book stacks, and the University administration also has been committed to providing funding for LCS and for an automated cataloging system.

In addition to funding from the University, the Library has been the recipient of various state and Federal grants. As mentioned previously, a Title III Library Services and Construction Act grant from the State of Illinois provided funding for the LCS, on the condition that the system include public libraries in the state.

The Mathematics Departmental Library was the recipient of a Title II-C grant to develop its national resource bank and provide online access to information on its holdings and interlibrary loan access to the math monographs in the collection.

Library service overall is expensive on this campus because it is decentralized. This improves service to patrons, but makes it necessary to provide hundreds of LCS terminals at locations in buildings remote from the Main Library.

The Library estimates that viewtext represents between 5 and 10 percent of its annual budget. It does not reduce staff, but staffing is of little concern in this Library's budget. More significant is the fact that viewtext also does not reduce the overall Library budget. However, it improves the service the Library can provide with the same amount of money. Before the system was automated, the Library spent $150,000 to $250,000 yearly to file

catalog cards, and often there were backlogs. It now has a smaller staff than do other libraries with the same amount of acquisitions, but is able to keep its catalog current.

The online catalog and the use of OCLC records have decreased cataloging costs per item, but the collection is expanding and hence total costs of cataloging have not declined.

Future Goals and Objectives

The University Library is moving towards ever-greater decentralization to provide more direct patron service. It plans to continue moving librarians into the departmental libraries. Emphasis is on improving information retrieval in departmental libraries and improving patron access to Library files from any location. Although departmental libraries are uncommon at similar schools, the University plans to continue its present libraries and even create new ones in the future, perhaps in psychology and Latin American studies. Terminals for LCS and FBR will, of course, be provided for these additional libraries. It is anticipated that the results of the online user survey and the subsequent online user conference will provide information to assist in meeting these goals.

The Library staff feel that anyone who uses or potentially could use an online system to access information and have materials delivered to them may have useful information to share with the Library staff. Users of the University CYBER mainframe computer will receive notice that the online questionnaire is available, as will PLATO system users in this country and abroad. Anyone with access either to a CYBER account or a PLATO terminal will be able to respond to the online survey, and the Library also plans to distribute it on Alanet. The survey will begin with a questionnaire

distributed only on the Urbana-Champagne campus, and the information gathered will eventually be used to develop a framework to carry out an online conference on PLATO and Alanet.

FBR will be tested in the coming year by University of Illinois libraries at Urbana-Champagne and Chicago. At the second testing stage, the 23 other LCS schools also will be able to access the FBR records of the University of Illinois, and at the third stage, the LCS participating libraries will add their own records to the FBR system.

FBR will not replace the LCS, but will complement it. LCS is faster and cheaper to use, and the University estimates, based on its knowledge of online catalog use in other libraries, that only between 45 and 60 percent of searches will be subject searches requiring FBR. Therefore, many searches can still be done using LCS only.

The online catalog is expected to be available in March 1984. The Online Catalog Project developers expect that the FBR system, which has been under development for three years, will eventually include 750,000 entries, 85 percent of all materials in the LCS collections. In February 1984, 420,000 were online, and this total will be increased as other schools add their records.

At this size, it will be larger than the catalogs of most existing libraries, yet it will include only 18 percent of the University of Illinois Library's holdings, dating from 1974 when the Library joined OCLC. The Library does not plan to carry out retrospective cataloging for prior years because it has author/title access through LCS to about 80 percent of its total collection, and because it cannot commit resources to retrospective

cataloging given the fact that it is acquisitioning a million new items every six to seven years. Items not in FBR are, of course, accessible through the Library's card catalog.

The Acquisitions Department is developing an automated serials check-in module for LCS which will allow departmental libraries to take care of their own serials. It will combine LCS with stand-alone microcomputers so that information can be downloaded from the mainframe to microcomputers for use by departmental libraries. Some serials already are delivered directly to the departments from the vendor, without going through central processing.

The Mathematics Library now lacks copies of only a few of the items needed to complete its monograph collection, and if it is unable to obtain copies of items that are available in other libraries, it plans to borrow existing copies on interlibrary loan and film them. These copies then will be entered in the Record of Microfilm Masters. Materials available only in microform will be housed in the Main Library, since these materials are considered to be peripheral to the University's Mathematics Department faculty needs. The collection of mathematics materials will be available nationally through OCLC and BRS, and through FBR it will be easily accessed by libraries in the State of Illinois.

The software interface developed by the Engineering Library will be developed further and will be made available to BRS and DIALOG users when those databases become available on the University's public access terminals.

Lessons Learned

The Acting Director of Departmental Services expressed the opinion that cooperation is the key to a strong university library. The Library administration at Urbana-Champagne encourages input from all units of the

school and has been fortunate in obtaining a positive response from departmental faculty to the introduction of LCS. Members of the humanities faculty, for example, met with the Library staff to request that the LCS as implemented not be overly mechanistic. One of their number, a professor of linguistics, in an effort to simplify the human interface with LCS, developed the software now used to prompt inexperienced patrons in using LCS terminals.

The University Library has learned from its experience (Carothers & Aguilar, 1983) that the state requirement that the low bid be accepted for an automation project can result in poor vendor performance, unless the request for proposals carefully outlines every detail of the work to be performed and the expertise required. Failure to be specific enough resulted in the acceptance of a bid for conversion of library data to LCS by a contractor who was not well qualified and who eventually defaulted. The staff believe that had the proposal been more explicit as to the exact qualifications and experience needed to complete the work, this problem could have been avoided.

The Library staff also said that efforts that involve cooperation with other organizations often require an understanding of the needs of all those involved so that the different objectives of each are met. The Library administration recognizes, for example, that the priorities for the University of Illinois Library may not be the priorities of LCS libraries as a whole. However, the Illinois Board of Higher Education was persuaded to fund LCS because it met the state's goal of providing access to library resources statewide. All Illinois public libraries now have access to LCS, but this might have been difficult to achieve if a system less useful to the University had been approved.

Another example of cooperation was the involvement of the Mathematics Library in the Title II-C grant. This project served the needs of mathematics researchers nationally and also funded the Library's reclassification to meet new Dewey System requirements.

The Library staff also have learned to develop priorities in relation to library technologies. For example, although LCS is less efficient than other systems, the University Library is committed to having library services decentralized to the extent possible, and LCS is better suited to this purpose than other more efficient systems.

The online user survey pilot test demonstrated that a questionnaire developed for use onscreen has its own formatting requirements. Information that is easy to scan on a paper sheet is tedious to watch scrolling by on a terminal, and a choice of options cannot be browsed as easily on screen as on paper.

The Acting Mathematics Project Librarian said that planning is important if the staff of such a project is to be well used. In the case of this project, start-up time was underestimated because OCLC did not process the orders for terminals until October and delivery was delayed. Clerks trained in this project are now very familiar with the work entailed, however, and other departments with similar needs have had the benefit of the experience of personnel who worked on this project.

Outreach

Information on viewtext is provided by the University to public libraries and publicly-funded institutions of higher education in Illinois as well as to public and private colleges that are members of the Chicago Consortium.

Brochures and handouts describing LCS are available throughout the University libraries and are posted prominently at terminals. Interlibrary loan services also are described in several publications available in all libraries.

The Library staff expect to be able to improve outreach to patrons, especially to those who do not come physically to the Library, by means of the information obtained through the online questionnaire and user conference. These sources will provide data on the characteristics of online patrons, the subjects they are studying, and the locations of terminals from which they access LCS. This information will assist the University Library in deciding where to locate additional terminals.

The Library staff have made information on LCS widely available. The Assistant Director for Acquisitions and Central Circulation for the University Library is currently the editor of Information Technology and Libraries, the journal of the Library and Information Technology Association (LITA), the division of the American Library Association that is concerned with all aspects of library and information science. The experiences of this and other libraries in incorporating viewtext have been reported in this publication.

The Mathematics Library will begin publicizing its new collection as soon as FBR goes online. It will send brochures on its collection to subscribers to Math Reviews. Since the beginning of this project, Math Reviews has been developing a database, and OCLC also has made available a Mathfile which contains 70 percent of the materials now in the Mathematics Library's collection. These databases will make this Library's collection even more useful, as the Title II-C grant funding anticipated.

References

The University distributes many informational publications on the Library and its services, including brochures on interlibrary loan and LCS.

A good description of the development and implementation of LCS is contained in:

Carothers, D. F. and Aguilar, W. The beginnings of LCS at Illinois. Information Technology and Libraries, 2 (4), December 1983, 393-400.

Information about online users of library services worldwide is being collected using the following survey instrument published by the University of Illinois Department Library Services.

University of Illinois Library Survey of Electronically Based Library Service. Univ. of Ill.: Urbana-Champaign, 1984.

Additional information on the projects described above can be obtained by contacting:

Barton Clark, Acting Director of Departmental Library Services, (217) 333-0317.

CASE STUDY REPORT 8

Name of Library:	Miami-Dade Public Library
Address:	1 Biscayne Boulevard Miami, FL 33132
Persons Interviewed:	Alice Dupuis, General Reference Librarian Sol Hirsch, Administrative Officer Micki Cardin, Assistant Director
Viewtron Offices:	1111 Lincoln Road Miami Beach, FL 33139
Persons Interviewed:	Monica Martino, Assistant Messages Editor Jean Brodshaug, Features Copy Editor Randy Bennett, Editor
Date:	February 22, 1984

Library Characteristics

The Miami-Dade Public Library is located in downtown Miami in a park which lies between Biscayne Boulevard, a main north-south interstate road along the Florida coast, and the waters of Biscayne Bay. Across the Boulevard from the Library is a commercial district with a number of hotels and office buildings and a variety of small restaurants and retail shops. Spanish is the predominant language in this neighborhood, which is the center of Miami's Hispanic community.

The Miami-Dade County area has experienced a substantial population growth in recent years. The present downtown Library, which contains only 60,000 square feet of space, was recognized as inadequate in 1973, and when a $35 million bond issue was passed to build a new cultural center, a replacement for the Library was planned. The new building is nearly finished, and the Library will be move to the new location in the Summer of 1984.

The present Miami-Dade Public Library system resulted from a merger of the Dade County Public Libraries with the City of Miami Public Libraries, and the system has been expanding rapidly to meet the needs of the growing population. In all, nine new branch libraries have been built since 1975, and another branch will open in the Summer of 1984.

Many libraries in the City of Miami system were old and small and new regional libraries were built to support these older libraries as the system expanded. There now are three such regional libraries in the system, each of which houses 170,000 volumes and 500 serial titles. These libraries are located in heavily populated outlying areas of Miami. Two of them circulate approximately 500,000 items a year, compared with the downtown Library's circulation of 275,000. There also are sub-regional libraries located in convenient areas so that patrons can obtain library materials without making a trip downtown.

The downtown Library is open from 1:00 to 5:00 on Sundays, but has no evening service and very little parking. However, suburban libraries in the system that formerly had their extended hours cut recently have had them restored because of patron demand and are again open weekdays until 9:00 p.m. and on weekends. There also may be an extension of downtown Library hours when the new library is opened. Since there will be a rapid transit station in front of the new building, it will be more accessible than the present Library.

History of Viewtext

The Library system joined the SOLINET library network in 1975 and installed four OCLC terminals at that time. In 1978 it also began a computerized index of local newspapers which it sells to other local

libraries. This has proved a valuable service which was not available from any other source. It also purchased a Displaywriter to compile indexes of large print and film catalogs.

The impetus towards automation in the Library has come from the need to cope with the requirements of patron service as the system expands and the need to control labor costs in the 24 branch libraries. Manual record keeping was overwhelming, and there was difficulty controlling the inventory and handling reserves because of the great growth the system was experiencing.

The Library began planning for automation in 1981 by visiting three other Florida libraries that had automated and several other sites using a variety of vendor systems. Once the decision to automate was made, the Library had to go out for bids twice, because one bidder complained that the Library's initial request for proposals was ambiguous. The matter was settled by the court in favor of the Library, and a second request for proposals was issued. The same unsuccessful bidder again challenged the contract award, but this second suit was dismissed.

The winning vendor's bid was one-half the price of the next closest bidder, but aside from its competitive price, a number of features made Geac, the vendor selected, attractive. It provides a local field engineer on a permanent basis, available to sites within a 50-mile radius, a service that will be very important to the Library in maintaining equipment. Geac also is negotiating with Federal Express to open a parts depot so that parts can be delivered within a day to its client libraries in South Florida. Local universities also have become interested in Geac because the system could facilitate their access to public library holdings. The central computer for the new system is presently installed at a branch library, but it will be moved to the main library when the new building opens.

Viewtron, the videotex system of the Knight-Ridder Publishing Company, was pilot-tested in South Florida for a year and was made available to subscribers in the general public in 1983. Since April 1983, the American Library Association (ALA) has contributed to Viewtron reviews of adult, young adult, and children's books, both fiction and non-fiction. The Miami-Dade Library also was invited to contribute information to the Viewtron database and agreed to do so, feeling that this would be an additional avenue for disseminating information about Library services. At first, Viewtron refused to supply a television receiver for the Library's use, but it finally agreed to do so when the Library said it could not dedicate a color television set exclusively for use as a Viewtron terminal.

The Library agreed to provide an online reference service in which Viewtron subscribers could key in questions using their keypads and the librarian would read and respond to these questions each day, using an information provider module on the Viewtron system. The Library also agreed to accept and acknowledge book reserves online on the Viewtron system.

Viewtext Applications

The Library uses viewtext in several applications at present, and when it moves into its new building, viewtext will be integrated into many more areas.

As mentioned in the previous section, the Library is one of the information providers on the Viewtron system. This system requires subscribers to purchase for $600 a decoder that connects their television sets to a telephone line. The subscriber uses a cordless keypad, the "Sceptre," for selecting information from the system or for inserting messages. A Viewtron subscriber must not only buy a decoder and keypad, but also must pay

a monthly subscription fee of $12 and a telephone connect charge of $1 per hour to access Viewtron, with surcharges for the use of some databases.

There are over 75,000 pages of information on the Viewtron system, and experts in such fields as religion, nutrition, horticulture, pets, fashion, and golf can be contacted online. Viewtron subscribers also can purchase tickets online and order printed materials that supplement online information. For example, SAT test books that relate to tests administered on Viewtron can be purchased online for delivery to users.

The Viewtron database includes information on public library program schedules, library locations, and telephone numbers. The Miami-Dade Library contributes a recommended reading list and provides an online reserve and reference service. A book request will receive a response within two days, but reference questions are answered the same day. When the Librarian opens the Viewtron system, a "Reserve" message flashes as the system comes on if any reserves have been placed. The Librarian calls up the reference questions on the screen, determines the responses, and enters a reply. Questions submitted by patrons are answered twice daily.

The Geac 8000 system has been installed; the staff are receiving training in its use; and the Library is preparing to input its records, create indexes, and begin the bar code labeling of its materials. The Library has an advantage in converting its records, first because it has SOLINET OCLC inputs going back to 1975, and second because it has many retrospective records as a result of purchasing older titles for new branches opened over the past 10 years.

The Library now has four OCLC terminals. It continues to subscribe to SOLINET and plans eventually to order only tapes, not cards, from OCLC.

For the present, however, it will continue to order tapes until it is satisfied with the interface that Geac offers.

The Florida Room in the Library indexes the local newspapers by subject and by county and state. The Library rents a database and terminals from Southeast Regional Data Corporation (SERDAC) and sells subscriptions to its indexes to other local libraries. Its indexes of seven local Miami newspapers include Black and Hispanic newspapers and business newspapers, indexed from 1978 to the present. Terminals are used only to key in data. Print copies of the indexes are circulated to branch libraries in the system and to paid subscribers. The Library also is indexing its collection of 17,500 local Florida photographs, dating from the mid-1920s to the early 1950s. These photographs will be indexed by subject on SERDAC, and the collection will be the first exhibition mounted in the new library.

Organization and Management

Responsibility for the Geac system and other internal viewtext applications rests with the Library's Administrative Officer, and the Library's interaction with Viewtron is managed by the Library's Assistant Director.

General reference librarians input information on Viewtron on a day-to-day basis. Tney have developed print forms for copying questions from the Viewtron terminal, since at present the system has no printer. As the librarians answer questions on the Viewtron terminal, they direct them to the online "mailbox," so that the answers will be posted for subscribers. If a question requires editing, the system provides an editing index for this purpose. A librarian also may respond to a subscriber's question by

suggesting that the patron check other Viewtron sources, such as the online encyclopedia, for the information requested.

The Library's General Reference Service responds to all Viewtron questions because the Viewtron terminal is located in its department. However, similar types of questions received by telephone in this department often are routed by telephone to a subject expert in another department of the Library.

Viewtron staff screen all questions before they are seen by the public. They also screen reference questions if they happen to open the reference file before the Library does. The librarians have no objections to this at all. Questions submitted to the wrong expert may be rerouted by the Viewtron staff, and grammar used in a question will be corrected, if necessary, before it is seen by other Viewtron subscribers. Vulgar or inappropriate comments are deleted.

Editors for the text portion of the Viewtron database are journalists with training in professional editing and writing. Viewtron prefers this background, because it ensures that its staff will be well versed in privacy issues.

All expert information is provided free to Viewtron, but information providers receive a free terminal, and Viewtron pays their telephone charges. Some information providers also are advertisers on the system, and Viewtron expects this to become more widespread. Advertisers sometimes defray costs to subscribers of some databases for which there is a surcharge. For example, the Official Airline Guide online costs five cents per minute, but some airlines defray costs of access to online information for their own services.

Hundreds of providers, both commercial and non-commercial, contribute information to the Viewtron system, and new Viewtron information providers can arrange very rapidly to go online. The Bureau of National Affairs, for

example, required only a week from the signing of a contract. Providers usually sign contracts with Viewtron for display designs that allow content to vary, without design changes. For example, the IRS uses an overall "eagle" design, but can change the content of its messages regularly. Viewtron employs 20 graphics designers in its offices in New York and Chicago.

Overall, the Library has little involvement with cable television because cable system boundaries do not coincide with Library boundaries. Public access channels do list library programs submitted to them, but more extensive involvement is difficult. Dade County includes many political jurisdictions, and each can negotiate its own separate cable franchise. There is no unifying force among them, and four or five cable companies already exist. A unit in the Dade County Manager's Office has been established to regulate cable, but some companies are city-based and some are county-based. Interestingly, the Miami Fire Department is the local agency that is most interested in operating the community access cable system to take advantage of that Department's extensive video-based training capability and television production facilities.

Patron Access

Viewtron staff said they had expected the Library to make the Viewtron terminal available to the public. However, the Library staff have placed it in a rear office, out of public view, because in their opinion, to put a color television set in the public area would invite theft. It also would require the Reference Librarian to interrupt patrons to use the set to input Library information for Viewtron subscribers.

Patrons cannot access DIALOG databases directly, but librarians will conduct free searches on request. At present, this is mainly a service to the business community described to business groups in presentations to the

Chamber of Commerce and other local organizations by the Library's Assistant Director. The service will not be widely publicized until a way to fund access charges is arranged.

When the Geac system is installed, the Library plans to implement a community access module that will allow direct access to its catalog by users onsite and at remote terminals.

Cost Implications

Money to automate Mami-Dade Public Library operations came from the Library's regular budget. The Geac 8000 will cost $550,000 and will provide 92 terminals, including six portable terminals, and disc drives. Telecommunications equipment will be purchased from Southern Bell, but the cost of this equipment was subtracted from Geac's bill.

The Library does not expect automation to save personnel costs by replacing people, but to allow more people to work in public areas.

Geac will allow the Library to make better use of book budget and collection development funds. The system traditionally has had a branch pool where libraries can store materials that must be weeded out when branches run out of space. With the Geac records available, the Library system will know what is in this pool and can check it first before replacing missing items or purchasing materials.

The Library may eventually close its card catalog and use only the online catalog. Its decision will take into account the high price of furniture needed to house a card catalog, the space that it would occupy, the cost of cards, and the maintenance required to keep the catalog current.

Viewtron is an expensive service, and the equipment price is scheduled to rise by 50 percent in the near future. AT&T sells the equipment for the system, with Viewtron responsible only for the database.

The Viewtron system uses AT&T's graphics protocol, which requires telephone transmission. The decoder used to connect the user's television set over telephone lines to the Viewtron database and the Sceptre keypad are sold in Phone Center Stores for $600 at present, with a rise in price to $900 anticipated after the initial introductory offer.

Because Viewtron is accessible at present only to affluent members of the community, the Library's Assistant Director has suggested to the Knight-Ridder Corporation that terminals be placed in secure public areas for use by all. She sees public libraries as one such site and feels the exposure provided probably would increase subscribers to the Viewtron service. At present, in spite of its large advertising campaign, Viewtron has been seen by very few among the public.

The Director of the Library, however, said that some staff members oppose placing terminals in Library public use areas, feeling that this would imply that the Library favored having people subscribe to a service to obtain information that taxpayers pay to make available to the community free of charge.

The use of DIALOG for online searching for patrons is not publicized by the Library because of the potential costs involved. State law forbids the Library to make any charge for searches, except for hard copies of information. State aid is provided in Florida with the understanding that library services are free. Any fees collected for any purpose have to be subtracted from the Library's state support. It can charge for printouts of searches only because it already is authorized to collect for photocopies.

When librarians do conduct searches, they give patrons references to sources through which to obtain all informaton identified through the online search, sometimes referring them to specific information vendors.

The Library purchases indexes from Information Access Corporation and, as a bonus for a large order, it received 250 hours on this vendor's online magazine, law, newspaper, and trade and industry indexes. This is a very valuable benefit, because the Library can use these online indexes not only for actual searching but for staff training as well. Online search capability also saves money by allowing the Library to cancel some subscriptions, Chemical Abstracts, for example.

Local tax structures have had a pronounced effect on the quality of library service available to patrons. As mentioned previously, the County Library System is a combination of libraries that originally belonged to the City of Miami and to Dade County. The two systems combined in the 1960s, and several other municipalities have joined the new system since. However, other communities, Miami Beach and Hialeah, for example, elected to maintain separate systems. Tax considerations were important in this decision since in some instances joining the consolidated system would cost taxpayers more than maintaining their separate library system. The decision to maintain small, separate systems is keeping library control in local communities, but also is contributing to outdated library operations that have inadequate funding compared to Miami-Dade's modern system. However, not all residents experience loss of service, because residents of other Florida communities can pay a yearly fee of $30 to use the Miami-Dade system. This fee, determined to be the amount County taxpayers pay for library services, allows Library use by all members of a family. Visitors to Florida are issued free courtesy cards by the Library.

Program Results

The Library has had very positive experiences with viewtext to date. Its early involvement with SOLINET and OCLC are making possible its conversion to an automated system. DIALOG searches have been greatly appreciated by business users who have used them to access current data for decision making.

Viewtron keeps statistics on the use of library information, and it is satisfied with this use to date, feeling that patrons are asking appropriate questions that the online experts can answer. At present, and until it has reached its goal of 5,000 subscribers, Viewtron will not disclose the number of subscribers on its system. However, the Library and Viewtron agreed that the present subscribers constitute a small and very affluent group.

Viewtron staff expressed dissatisfaction with the keypad provided with the system by AT&T, and indeed it does not conform to human factors standards suggested in recent research (Carey & Siegeltuch, 1982). Keys are small, flat, and very close together. Viewtron's contract with AT&T for equipment is for only one year, however, and the redesign of the keypad is under study.

The ALA is requiring Viewtron to collect statistics on the use of the information ALA contributes, and Viewtron is compiling usage statistics for ALA and other information providers on a yearly basis. Figures provided by Viewtron showed that Viewtron users reserved an average of five items a week between October 31, 1984, and February 19, 1983. The largest number of requests in one week was 11, the smallest 1. In the same period Viewtron users submitted an average of 7 reference questions a week. The largest number of questions asked in one week was 15, the smallest 3. By comparison, the Miami-Dade Library responds to 150,000 telephoned reference questions in a year, and the total system, including all branches, answers 750,000 questions a year.

Outreach

Geac will allow the public to interact directly with the online public catalog, which will be accessible to anyone with a modem. Although Geac is willing to cooperate with Viewtron, a public Viewtron terminal would require the Library to dedicate one port to community access, whereas the Geac online catalog allows the Library to connect four terminals to each port. The Library does not want to dedicate a public telephone line that will allow access to only one person at a time. It would prefer to have Viewtron set up an interface or queuing system so that people calling could have their data called up in turn and more access would be available.

Both Dade and Broward Counties expect to have a community access module for library searches. Other libraries could access information online from these counties and could telephone to have materials reserved for patrons. Geac's community access terminals are similar to OCLC terminals in their characteristics. There is no interaction, but users are prompted by online menus.

The Library plans to offer demonstrations of the Geac system at all locations before it implements the system. School groups will be given demonstrations, and publicity materials will be distributed. The Library will issue a "first patron" card with accompanying public relations activities.

To increase acceptance of the system by the staff, administrators discuss the project timetables at all meetings and describe the progress of the system. They know that some librarians are more enthusiastic than others. As they demonstrate the system to librarians, they stress their concern for human factor elements. For example, one-half of the terminal screens will be green, and the other half amber, since investigations showed that people with color blindness can see one or the other of these colors. They also expect to

establish standards for lengths of time workers will sit before terminals to avoid any possible harmful effects.

The three Counties of Dade, Broward, and Palm Beach have formed an automation group that meets to discuss problems and to ensure that comparable library systems will receive comparable vendor services at comparable prices.

Outreach to minority groups is a concern of the Library, and ethnic and cultural heritage programs are a part of its outreach program. The Library also took advantage of a Federally-funded "Spanish immersion" program to provide the Library staff with insights into Hispanic life and culture. Outreach to the Hispanic community is especially important to this Library, given the large population of Spanish-speaking residents in the area and the difficulty of providing them with adequate service. The system has a Hispanic library in which 90 percent of the materials are in Spanish, but this library is open only 35 hours a week.

The Library may ask Geac to include Spanish language prompt screens. Geac, a Canadian company, already has prompts in French. However, there is now a Florida ordinance forbidding the printing, with public funds, of materials in languages other than English. In this Library, for instance, information materials printed in Spanish have been paid for with donated funds.

Overall, the City of Miami is witnessing a great amount of friction between Blacks and Hispanics, the City's two major minority groups. As the city becomes more Hispanic, employers are preferring workers who are Spanish speaking or bilingual, thus reducing opportunities for Black workers. Outreach to both groups is regarded as very important by the Library.

Future Goals and Objectives

Depending on the success of Viewtron in the Miami area, 18 cities will go online, beginning with Boston in 1985, where the Boston Globe newspaper will be involved. The Library will continue its involvement with Viewtron in Miami. Its sees this as a free publicity tool, an additional way of delivering Library information.

The Key Biscayne branch library, which will open in the Summer of 1984, will be the first branch to go online with Geac. Telecommunications lines for the Geac System are being developed, and by September 1984, they will be in place. A small team of six people will maintain the Geac system. Three will be new hires who will operate the computer. They will run the system seven days a week working in shifts from 6:00 a.m.-11:00 p.m. Two training people are working with the Library now to coordinate training in records management, circulation, etc., for branches. Geac trains trainers from within the Library to train other library staff. At the completion of the training, the only new people will be two professional Librarians, three Computer Operators, and a Project Manager. Paraprofessionals will be responsible for ongoing training. Geac was surprised that the Library would require even six people for its system. With the new automated system the Library expects to need fewer clerk typists and to promote people now holding such positions to paraprofessional work. Library growth has been substantial in recent years, and, even at present, career ladders in the library system allow 90 percent of paraprofessionals to be recruited from the ranks of clerk typists. The new automated system will accelerate this trend.

All libraries in the system should be linked to Geac by the end of 1984, including bookmobiles using portable terminals. The Project Manager will have

control over procedural manuals and day-to-day responsibility for the online systems.

When the Geac community access module is in service, patrons will be able to obtain full bibliographic access to library materials using author, title, subject, or key word inquiries. The Geac system, when complete, also will include subject, title, and author inquiries to the film and serials collections. Film booking will be done through the main Library only. The Library is a sub-depository for government documents and also hopes to put all its government document records on its computer database.

The Library will move in August 1984 to its new building five blocks away. Other buildings in the cultural center are an art museum and a historical museum. The new library will have 202,000 square feet. It is anticipated that moving from the present facility will take eight to nine months. Circulation will be the first Geac system module implemented. After that module is installed, the Library will move on to acquisitions and serials and then to community access.

When the online public catalog is opened in the new building, it will be accessible from terminals throughout the building. The Library then will consider the possibility of closing the card catalog and using only public access terminals. Once the Geac acquisitions module is installed, it will put short orders into the system and will not need more informaton online until it receives OCLC tapes.

Lessons Learned

Entry-level librarians already are considered managers, and these professionals have increasingly heavy supervisory responsibilities as the Library automates.

The Library staff think that commercial vendors of information are beginning to realize that libraries, far from being obsolete, are the country's primary information resource. In the experience of this Library, personal interaction is lacking in online service provision, and the information available is very limited, with the exception of sports and news. Reference librarians agreed that some questions are more appropriate for answering online than others. Among those that are suitable are questions requiring extensive research before an answer can be developed and questions from patrons who speak indistinctly on the telephone or have difficulty in hearing. Overall, although patrons can reserve books and ask reference questions on Viewtron, the Library staff do not feel that it offers any service not previously available by telephone.

Miami-Dade finds the ALA book information redundant, since it publicizes books for which there already is a heavy demand and which are well advertised in current newspapers and media. They would prefer to publish booklists of relevance to the local community.

Information for display on Viewtron must be submitted further in advance than was the case formerly for print media, but the Library has overcome this problem by delivering paste-ups of its printed publicity materials to Viewtron at the same time these materials are sent to the printer.

The restrictions placed on libraries in the state that forbid charging patrons for searches are having the effect of restricting patron access to information that is available from the library.

References

Carey, J. and Siegeltuch, M. Research on broadcast teletext. N.Y.: Alternate Media Center, N.Y.U., 1982.

Viewdata publishes many brochures and advertisements on the Viewtron system. Information may be obtained by contacting:

Randy Bennett, (305) 674-1444.

Publications and information on the Miami-Dade Public Library may be obtained by contacting:

Micki Cardin, (305) 579-5001.

CASE STUDY REPORT 9

Name of Library:	Library Media Center T. C. Williams High School
Address:	3330 King Street Alexandria, VA 22302
Persons Interviewed:	Gloria Davidson, Media Center Director Esther Cook, Library Media Specialist for Audiovisual and Computer Materials
Date of Visit:	February 24, 1984

Library Characteristics

This Library Media Center serves the T. C. Williams High School, a comprehensive, three-year, metropolitan high school with a student population that is very diverse in terms of ethnic and socioeconomic background and educational goals. Originally, there were three senior high schools in the Alexandria School System, but two became secondary schools in the 1970s, and later junior high schools, and senior high school classes were consolidated into this one large school. The school serves an urban community, and was commended by the Department of Education in the 1982-83 school year for the excellence of its programs. The curriculum includes strong academic, business, and vocational preparation. The school has 2,500 students and over 170 faculty.

The Library Media Center adjoins the newest wing of the school and was renovated in 1976 when this wing was built. Facilities for automotive, carpentry, printing, and commercial foods instruction are housed in this wing. The Media Center is a very attractive facility that includes a large open library area, student conference rooms, study carrels, and staff offices.

The Center was first opened in 1965, with a very limited collection. The collection was upgraded starting in 1970. In the following years, the Superintendent increased the Media budget, so the collection now is adequate to support the school curriculum. At the end of the 1982-83 school year, the collection included 44,377 volumes, 225 magazine subscriptions, and 16,775 non-print items, including 20 5-1/4" microcomputer floppy discs. Audiovisual hardware for use with these items included color and black and white television monitors, videotape and videocassette recorders, video cameras, numerous projectors, and other audiovisual equipment. Microcomputer hardware included an Apple II^e, an Apple II^+, three disc drives, a modem, and two dot-matrix printers. The Center circulated 1,764 books and 99 non-print items as well as 115 16mm films from the System Level Education Media Center in a typical recent month.

The Center provides library and information skills instruction for students and faculty, reference services, reading guidance, and literary appreciation programs. Workshops in computer literacy are held for faculty and students. Exhibits 12 and 13 describe services to students and faculty, respectively.

The Center was designed to accommodate 10 percent of the student body, which at the time of the renovation was approximately 1,700. The last school consolidation increased the enrollment to over 2,000. Usually the Center does not have over 150 users in the facility at one time, or more than three classes of students with teachers.

Center staff consist of three full-time Librarians, two with Master of Science in Library Science (MSLS) degrees and one with a Bachelor's degree in Library Science (BLS); one half-time Librarian with a Master's in Library Science (MLS) degree; one Media Technician; one Instructional Aide; and one clerical worker.

Exhibit 12

LIBRARY MEDIA CENTER

STUDENT INFORMATION

THE SCHOOL ID CARD OR A PASS FROM CLASSROOM TEACHER MUST BE SHOWN UPON ENTERING THE LIBRARY MEDIA CENTER UNLESS STUDENT IS ACCOMPANIED BY TEACHER.

HOURS OF OPERATION: 7:10 AM to 3:00 PM

Materials, Equipment and Services Provided

CIRCULATION

The embossed school ID card serves as Student Library Card for charging out materials.

BOOKS:

General - This category includes books which are not designated as "Reference" or "Reserve" and may be borrowed for a two-week period.

Reference - Reference books may be borrowed for overnight use only and are to be returned by the second period of the date due.

College and Career - This collection is located in Conference Room "B". It includes both general and reference books. College catalogs are also located in this area. Books may be borrowed on the same basis as other books. College catalogs may be borrowed overnight.

Paperback - Paperback books which are not listed in the card catalog are located in the browsing area and may be borrowed for two weeks.

AUDIOVISUAL COLLECTION: This collection includes a broad range of information which is stored on phonograph records, audio-tapes, filmstrips, slides, microfilm, pictures, art prints, maps and posters. These materials may be borrowed for one day. They should be returned by the second period of the date due.

INFORMATION FILE: The Information File has a collection of pamphlets, government documents and special reports on a wide variety of subjects which may be borrowed for one day. They should be returned by the second period of the date due.

PERIODICAL COLLECTION: Current magazines and newspapers are located in the browsing area and may be used by students in this area. They are not to be removed from the Library. Back issues are on file in the Periodical Storage Room and must be requested at the Circulation Desk. A special form is provided for this purpose.

EQUIPMENT: Some portable equipment may be borrowed by students for overnight use at home when the need arises.

RENEWALS: Books which circulate for two weeks may be renewed one time. Overnight materials may not be renewed.

RESERVE: Books and materials placed on the "Reserve Shelf" at the request of the teacher may be charged out at the close of school for overnight only. Not more than two books may be charged out at one time without written permission from the teacher who has them reserved.

NUMBER OF ITEMS WHICH MAY BE BORROWED: No absolute number is set but students are asked not to charged out more items than they can reasonably expect to use during the loan period.

OVERDUE NOTICES: Overdue notices are written and sent to students who fail to meet the deadline for returning borrowed materials.

DEFICIENCY CARDS: Deficiency cards are prepared at the end of each quarter for students who have materials that are overdue.

FINES: No fines are charged for overdue materials; however, a fee is charged for lost or damaged materials. The fee is based on the original cost of item or cost for repair. If lost items are found and returned in good condition during the current year, a refund will be made.

MICROCOMPUTER: An Apple II Microcomputer is located in the Library Media Center and can be scheduled for use through the classroom teacher.

BEST COPY AVAILABLE

Exhibit 13

LIBRARY MEDIA CENTER
T. C. WILLIAMS HIGH SCHOOL

October, 1983

SERVICES FOR TEACHERS

1. HOURS OF OPERATION: 7:10 AM to 3:00 PM

2. Materials and equipment in the collection may be borrowed for short-term or long-term use. *

3. Materials may be borrowed for personal use and for use by students in the classroom. The teacher is responsible for the borrowed materials until their return to the Library before the end of the school year.

4. Names of students who are placed on independent study should be given to one of the Librarians. It is also helpful for the Librarian to know the nature of assignments. Not more than eight (8) students will be admitted from one class per period unless accompanied by teacher.

5. Library staff should be notified at least one day prior to bringing classes to the Library. The staff will arrange for special materials or areas to be set aside as needed for class use.

6. Classes will be assigned to an "area" based on number of students in the class and the nature of the work.

7. Sharp, Thermofax and Microfilm copiers are located in the LMC to reproduce information for your instructional use. If more than five Sharp copies are needed, the large copier near the Main Office should be used.

8. Posters, pictures and other resources are available for your use with bulletin board displays.

9. Engraving and lettering devices may be used to produce a variety of sizes and forms of lettering.

10. Closed circuit television programs are provided upon request. Equipment must be reserved.

11. Several shelves in the LMC have been designated for the "reserve" section. Materials to be placed on reserve should be identified and removed from the general collection by the teacher. A Library Media Specialist will be available to assist you as necessary (in your search) and prepare the materials for the "reserve" shelf.

12. MICROCOMPUTER: Apple II Microcomputers are located in the Library Media Center and can be scheduled for use through the classroom teacher.

In order for the LMC staff to more effectively meet your information needs, we encourage faculty and students to participate in the selection of materials. A supply of "order cards" will be given to each department head for your convenience.

* Your assistance in encouraging students to return borrowed materials on time will be appreciated. One very important way of doing this is to see that students receive overdue notices that are sent through teacher mail boxes. This will result in great savings of time and money.

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The Center is open from 7:10 a.m.-3:00 p.m. on school days. An adult education program held in the school two nights each week has its own Librarian with an MLS degree, who provides media services for that program. There also is a summer school with an MLS-degreed Librarian from the school system providing media services. The librarians who serve the adult and summer school programs coordinate their activities with the high school Media Center staff as necessary, and communication among the staff of all programs using the Center was described as very good.

History of Viewtext

Viewtext use was initiated by the Director of Media Services and other administrators of the Alexandria Schools. In September 1982, each school Media Center was provided with an Apple II^{+} microcomputer. Classes and workshops were held by the School System to prepare media staff to train teachers to use computers in instruction. The Media Centers were made the focal points for computers in their schools, and computers were seen as tools for computer-assisted instruction, rather than for instructional management. A second Apple, a II^{e} model, and an additional printer have since been purchased by this high school. Modems were purchased by the Alexandria School System in the 1982-83 school year for all junior and senior high schools to acquaint students with available online information.

Initial introduction to the Apple computer was provided for Media Center staff on three staff development days. A workshop was set up by the School System's Assistant Superintendent for Elementary Education and the Director of Media Services. Media Center staff later advised their superiors that this brief training was insufficient, and a one-semester, three-credit course, "Introduction to the Educational Applications of Computers," was then provided

by the School System through the University of Virginia. This course covered hardware and software, including the Minnesota Educational Computing Corporation (MECC) collection that the School System furnished to all Media Centers. Instruction in elementary programming, computer languages, and courseware also was included.

The School System provided a training course in online searching with the DIALOG database subscription, and two full in-service days have been provided to date, with one more half-day session scheduled.

Viewtext Applications

There are now two Apple microcomputers in the Media Center, and a telephone line allows online searching. The Center has available over 80 software packages, including two easy-to-use word processing programs, for students and faculty to use with the Apple computers.

The Media Center uses its Apple computers to evaluate software and to familiarize teachers with software. Teachers with their classes, small groups of students, or individual students use the computers with Media staff assistance. Apple computers and the Center's large television receiver also can be moved out to classrooms for demonstrations. The Media staff do not use the Apples for clerical work. They use a memory typewriter to do original cataloging on the infrequent occasions when that is necessary.

The school has two computer labs equipped with TRS-80 microcomputers, and computers are widely used in the school for specific instructional applications, such as the teaching of computer programming and word processing. Equipment for these courses is not selected nor is its use supervised by the Media Center, but faculty must coordinate the purchase of software and hardware at the system level. The Center inventories all

computer equipment yearly and also arranges for any repairs needed. On a day-to-day basis, equipment to be repaired is brought to the Media Center, and the staff then contact a repair facility. A School System truck picks up and delivers equipment to be repaired, and the System pays the charges.

Organization and Management

The School System has created the impetus for Media Center involvement with computer-assisted instruction. The Director of Media Services required that microcomputers be made a priority in Media Center programs. To ensure this result, hardware, software, and training were provided by the School System and ongoing advice and support have been made available. The School System's Media Services unit also discussed with the principals the objectives to be accomplished through the introduction of viewtext and encouraged them to share this information with their faculties.

Initial purchases of hardware were made by knowledgeable individuals at the system level. A subscription to DIALOG was provided by the School System, and each Media Center is developing its own standards for online searching. In addition, the School System purchased for all schools the MECC curriculum developed by the State of Minnesota, thus taking advantage of tested instructional programs available at low cost from another public school system. Schools can purchase additional software only with the School System's approval. A system-level software evaluation committee has been established and has developed a software evaluation review process and an evaluation form. This committee circulates a list of approved items, for each grade level. The Media Center also reviews materials and sends its assessments to the system-level committee. System-level software previews are considered a time saver by the Media staff.

Building-level support for viewtext also has been very good. The school's Associate Principal for Instruction supervises the Library Media Center. He is enthusiastic about the viewtext applications, and he attended the computer course described above. He is responsible for teacher evaluations, and one performance element he is expected to be assessing will be teachers' integration of viewtext into their instructional activities.

Patron Access to Viewtext

Students use the Center's computers for drill and practice activities assigned by teachers. Students can sign up by class period to reserve a microcomputer. They may use their own discs if they have teacher permission, and discs are sold in the school bookstore.

It is not anticipated at present that students or faculty will conduct their own online searches. Searches will probably be done once a day by Media staff with printouts given to students.

Cost Implications

Federal support has been essential to the involvement of the Alexandria Schools in computer-assisted instruction. Federal funds were used by the System for the original purchase of Apple computers for all schools and for the purchase of modems. The System has also taken advantage of software developed with public funding by purchasing MECC software for all schools with computers.

A policy for online search charges has not yet been established by the School System and until a decision about use and payment is made, online searching will be restricted to Media staff. High search charges on the DIALOG database make it too expensive to allow untrained users to access the system.

When the School System gave priority to viewtext involvement, there were some cutbacks in technical processing time by the Media Center professional staff and the clerical staff, and volunteers had to assume a larger responsibility for technical work. This was not a serious problem, however, because the Media Center's major collection building activities had been completed. It would have been a matter of greater concern in previous years, when more time was required to select, order, acquire, and process materials.

Program Results

Teachers are using computer software from the Media Center to teach foreign languages, English, music theory, SAT preparation, and elementary math for learning disabled students.

The availability of viewtext has increased Media Center use by some faculty members who did not use its services previously. Faculty members in several disciplines are assisting in software evaluation, and some are beginning to develop software for their own instructional use.

The training provided in computers and online searching has prepared the Media Center staff to conduct classes in the use of the Apple for teachers, paraprofessionals, and clerical staff. All Media Center staff are able to assist faculty and students in using the Apples, and the staff are just beginning to use DIALOG for searching.

There is no difference in use of Media Center viewtext equipment based on race or sex. All grade levels use the equipment, and the use of computer software is high in all disciplines for which appropriate software is available.

Outreach

The Media Center publicizes its viewtext services through Parent, Teacher, and Student Association newsletters, teacher memos, morning announcements, articles in the student newspaper, etc. The School System is small, and communications among schools and with the central office are good.

New faculty members receive personal invitations to attend a Media Center orientation during a planning period soon after they join the school staff.

Microcomputer use is discussed in the overall Media Center orientation for the tenth grade, and online searching also will now be included. A National Library Week program in the school will feature online searching.

Futures Goals and Objectives

The School System's commitment to viewtext is strong. It is planning to increase teacher and student involvement both with computer-assisted instruction and bibliographic searching. No course on searching for students is available at this time, but this is a future goal.

Lessons Learned

Directives from the system level can encourage involvement with viewtext, but proper training also is essential, preferably before new equipment is delivered, if viewtext is to be used appropriately.

Students are much less apprehensive about computers than are teachers, and the Media staff can serve a critical role in introducing faculty members to the uses of viewtext in teaching. However, adequate training both in instructional computing and in library uses of viewtext is essential for media professionals. Without this training, computers cannot be a worthwhile investment. Media personnel cannot be held responsible for assisting faculty

and students with computers and online searching if their own background in these areas is weak.

The Media Center staff have the advantage of insights shared by faculty who are involved with viewtext applications in specific disciplines. For example, the printing teacher reported that he had learned that if he started students on automated equipment, they were quickly bored. He now begins by having them set type with older technologies and has found that this approach results in their welcoming the efficiency and ease of use afforded by automation. He also commented that the technology taught at the school is only helpful in improving employment opportunities for students who have good basic skills and an appropriate attitude towards work.

References

For further information about the T.C. Williams Library Media Center, contact:

Gloria Davidson, Library Media Center Director, (703) 998-2060.

APPENDIX

LIST OF TOPICS

The following specific questions will be used by the LJA research team to guide the collection of information on viewtext use at each site visited.

1. What are the library's characteristics in terms of:

   - o Type? (public school, academic, special library, local or state agency)
   - o Size of physical plant?
   - o Location? (urban, rural, suburban)
   - o Circulation?
   - o Staff? (number, qualifications, hours available)

2. What has been the history of viewtext in the library?

   - o Is the viewtext being used in a pilot or experimental program?
   - o What major equipment acquisitions did the introduction of viewtext require:
     - for library management functions?
     - for staff service to patrons?
     - for end users?
   - o To what extent did the viewtext project originate at this library, rather than at another site?
   - o What special staff was hired for viewtext?
   - o What program development activities have taken place to date relating to viewtext:
     - patron services?
     - staff training?
     - software development?

3. How are viewtext activities organized and managed?

   - o Who is reponsible for viewtext use?
   - o What use does the library staff make of viewtext?
   - o What incentives and assistance are provided to encourage library staff involvement? Patron involvement?

4. What patron access to viewtext is provided?

   - o What is known about the characteristics of viewtext users in this library in terms of:
     - sex?
     - age?
     - race?
     - occupation?
     - educational level?
     - socioeconomic level?
   - o What type of viewtext is provided for patrons, where, when, and how?
   - o Which viewtext services do patrons prefer and use most easily?

5. How does the provision and delivery of viewtext affect the library's budget?

   - o Who pays for viewtext?
   - o What do viewtext applications cost the library?
   - o If the project presently is funded by a special grant or is a pilot or experimental program, will funds be available to continue it when initial funds have been exhausted?

6. What has the library accomplished to date as a result of viewtext in terms of:

   - o Provision of viewtext?
   - o Delivery of viewtext?
   - o Assessing the success of viewtext services through:
     - surveys?
     - attendance and use statistics?
     - other?

7. What is the range of viewtext applications?

   - o Is it used:
     - only within the library itself?
     - within the library's host institution?
     - within the community?

- o What specific applications incorporate viewtext:
  - information acquisition and organization?
  - information dissemination?
  - information referral?
  - document delivery?
  - information interpretation/advice?
  - consumer education?
  - advocacy?
  - lobbying?
  - problem-solving?
- o What are the physical locations of each viewtext application?

8. How does the library provide orientation to viewtext use and purposes:
   - o For library professionals?
   - o For patrons?
9. What outreach and publicity related to viewtext are provided by this library:
   - o To other libraries?
   - o To other institutions, businesses, industry?
   - o To patrons?
   - o To the community at large?
10. What future goals and objectives does the library have for viewtext in relation to:
    - o Equipment?
    - o System organization?
    - o Staffing?
    - o Services?
11. What lessons has the library learned with respect to resolving problems related to viewtext that were:
    - o Technical?
    - o Organizational?
    - o Social and political?

12. What contacts are available at this library:

    - o To provide more information about library use of viewtext?
    - o To accept help or suggestions for the library from other viewtext users?

13. What references and information about this library's use of viewtext can the library provide?

    - o Publications produced by the library?
    - o Bibliographies of publications recommended by the library?
    - o Published articles related to the library's accomplishments?
    - o Tours of the facility?
    - o Seminars or other technical assistance by the library staff?